(1860–1868)

BENJ. D. WALSH,

STATE ENTOMOLOGIST,

SENIOR EDITOR OF

The "American Entomologist."

Corner of Exchange and Orleans Sts.

ROCK ISLAND, ILLS.

Peach maggot J. p. 69
— beetle J. p. 66
Squirrels carnivorous J. pp. 56. 32. 187
Transformation delayed a season p. 143 (many cases in this volume)
odonatous anus p. 150 Vol. I of this Journal.
March. 1860 — page 5
1861 commences page 9.
1862 — — 25
1863 — — 41
1864 — — 71
1865 — — 141
1866 — 184
(concluded Vol II. p. 15.)

Vol. II.

1867 commences page 16.

From Prof. Owen's address Brit. Assn. in Silliman's Journal Nov. '58

"Von Siebold, having subjected to the closest microscopic scrutiny & experiment the conclusion to which the practical beemaster Dzierzon had arrived, relative to the cause of queen bees with crippled wings producing a swarm exclusively of drones, has demonstrated that the male bee is produced from an egg which has been subjected to no influence save that of the maternal parent; while such egg, if impregnated, would have produced a female or working bee. The now well investigated phenomena of Parthenogenesis in Hydrozoa have resulted in shewing, as in the analogous case of Infusoria, that animals differing so much in form as to have formed 2 distinct orders or classes, are really but 2 terms of a cycle of metagenetic transformations, — the acalephan Medusa being the sexual locomotive form of the agamic rooted budding polyp, just as the cestoid taenia is of the cystic hydatid.

stabilienda non sunt genera instrumentorum cibariorum cujusdam discernimus ratione, sed cum differentia illa majores sunt, et cum generis scissionem necessitas postulat, ot specierum, verbi gratia, nimiam multiplicitatem

Linn. Gen. Cr. III. 61

Larva feeding on pith of wild aster — Xanthredo? — length 3/4 inch — head black — six very short tuberculous? legs, hairy — a double row of smooth tubercle-like processes on each side & on each segment of the body but the last, extending above the true legs. General color dirty white — semitransparent. [Larvæ all died]

Dytiscus Harrisii Lec. 1.4 to 1.6 long. Differs from verticalis (Say) in the following respects: — vertex (in front) not punctured — 4 large yellow patches on postpectus — thorax margined before & behind with yellow — posterior sternum more dilated.

Hydrophilus 1. (smaller) — thighs & 4 hind tibiæ fasciate with rufous — anterior metasternum nearly straight

Hydrophilus 2. (larger) front tips of thighs only fuscate with rufous — anterior metasternum strongly turned up.

From Dr. Kirtland's paper, Cleveland Trans.? — "Callydrias Eubule — This large & nearly pure yellow colored butterfly never reaches the northern extremity of Ohio — at Cincinnati it occurs in great numbers; but only, as I've said, in the fore part of summer."

Ibid. "P. Marcella resembles Ajax, but differs in having only one red spot on the inner margin of the posterior wings."

Larva of Helophilus? or Eristalis? found March 15. 60 under bark of old oak stump, remote from water. Larva (closely resembling larva of Helophilus figured Westw. Intr. II. 558 fig 131.7) .35 long, exclusive of tail which is over .4 long. Color dirty light brown. Proceps exserted from tail .15 long: 14 tubercular feet, furnished with 4 or 5 spines, hooks, the 1st pair placed close to mouth & further from the 2nd pair than the others are from each other. A ragged anal proceps, with the appearance of two tubercular feet close together immediately in front of it, which however have no spines. Mouth apparently 4 tubercles ∴ with a cavity in the middle. A pair of short antennæ above it, & a pair of very indistinct tubercles on top of 3rd. segment (2nd from head.) A row of 7 simple tubercles each side beneath, 1st opposite 2nd pair of feet, last opposite anal pair of tubercles. No vestige of eyes —

Pupa — supposed to be of ditto. — Length .4 exclusive of tail, which is .05 long. Closely resembles fig. 5 of Westwood (ubi supra), except that dorsal processes are merely 2 short nipples (∴) On each side of head above, on anterior edge, are two distinct shiny horny hooks, black, ⋎⋎, with the antennæ as in larva, but shorter. On top of 3rd segment another pair of similar tubercles. Tail (a), (a) shiny & horny, of a light mahogany color, anal (b) part of abdomen being dirty opake brown, marked with irregular transverse interrupted dark lineations. Feet as in larva, but lateral tubercles & anal process ~~hook~~ none. Mouth two tubercles, with a hole between.

[How if this be a "coarctate" ~~larva~~ pupa, how come the horny hooks to the head ??? of which there is no vestige whatever in the larva. — Maynard]

March 28. 1860. Found two larvæ (dipterous?) in fibrous debris inside the hollow of a felled & hollow ~~soft maple~~ poplar. Length 1 1/2 to 1 3/4 Breadth 5/16. Segments 12, exclusive of head. Head mahogany brown, polished & pointed: nearly entirely contractile, with a few hairs. A brown spiracle each side of penultimate segment above. Body somewhat depressed, or rather laterally expanded, whey-colored, with the appearance, even to the naked eye, of irregular patches of white eggs over nearly half the surface, except the 1st & 2nd & partially the 3rd segment. The skin between most of the middle segments below is contractile & furnished with tubercles (in place of legs?) which entirely disappear at the will of the animal. Placed larva in large tin pail.

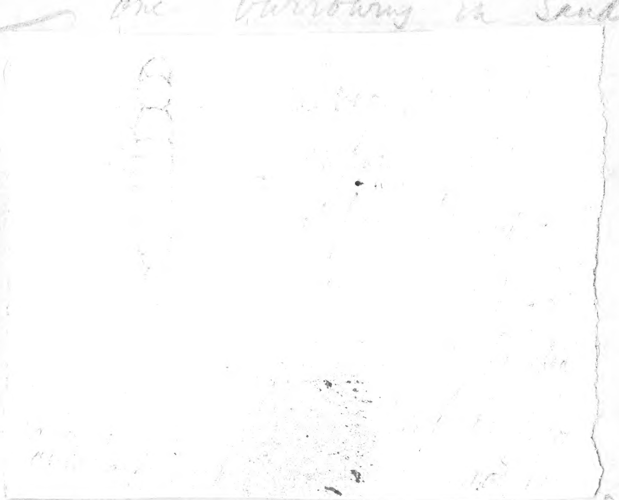
Found this winter Polistes ~~Odynerus~~ fuscatus ♀ two specimens under bark. Mr. Josiah Case also informs me that he knows of no social wasps but the yellow-jacket & the baldfaced hornet. Consequently, as the ♀ hornets all perish before winter, & only the ♀ hybernate, it is reasonable to suppose that O. fuscatus is not social, & therefore it cannot be a Polistes as Dr. Fitch calls it. (3d. Ins. p. 17) "Bald-faced hornets" ♀ hybernates under very rotten logs; "yellow-jacket" ♀ under bank of felled trees.

Left off Ichneumonida with "Cryptus" Say II. 688 — thence to p. 704 inclusive through. — Worked thro Heteropt. to I. p. 314

6) ~~Oryctes Satyrus?? Fabr. (my cabinet) [This insect is figured in Emmons' Report N. Y. as Copris Carolina] = Dr. Vesey's species it is clearly not a Copris, but an Oryctes — belonging to Dynastidae, not Scarabaeidae. It agrees with characters of Oryctes given in Latreille (II. 102) & especially differs from Copris in the absence of the lunate clypeus & the interm. & post. tibiae being "tenuis transversim ciliatis." (Latreille). Hope gives "satyrus" under Xyloryctes" (Melol. Cat. p. 57)~~

July 4 Caught ♂ Libellula — ~~[small spot spec.]~~ corrupta Hy. back of "Brick" — just come out.

July 6 Caught ~~Large Stizus~~ ✓ Bembex fasciata? ♀ plain thorax) with musca caesar in its claws — middle July caught one burrowing in sand.



This is evidently a staphylinidous larva, (See Westwood) from the anal proleg

July 19. saw the Tinged (Syrtis?) ~~[coreid]~~ (yellowish & black) with raptatory & very stout fore legs, engaged in sucking the juices of the smallest species of Bombus, on a flower. The Bombus was still alive, but weak.

July 20. Observed the large rufous Erax (L'Baron) (Asilid) on the wing seize a middling sized small Bombus & suck its juices, taking it head end first & keep its abdomen away from its own self. Inserted beak front of thorax.

(7)

July 20. Observed the ♂ scoliad (yellow & black fasciate) seize with its anal hook, like a thumb, objects presented to it. Used for sexual prehension, as Diapheromera Says?

July 22. Saw the above ~~Coreid~~ Tinged (Syrtis?) preying on a Tachina? the size of a house-fly on umbelliferous plant. Tachina was loudly buzzing, which attracted my attention.

The males of the 2 yellow {Myzine sublata & banded "Scolia" (smaller than confluenta) use the long spine as a thumb to take hold when it closes between the other 2 smaller spines.

In the very neuration of my largest species of Crabronids (1860) there is a peculiarity which Latreille says is confined to the Scoliadae viz. the 1st subm. forms a series with the marginal, & 2nd & 3rd submarginal form a 2nd series (Gen. Cr. IV. p. 104-5

The ♂ of some Eumenids have a double retractile sting-like process at extremity of abdomen.

Aug 14. '60 a aquatic dipterous larva — ? a Tabanus — bred, but very defective Length $2\frac{1}{4}$ inches when extended $1\frac{3}{4}$ inches contracted, diameter $\frac{4}{20}$ Pointed at both ends. Tubercles to every segment except the first three bent beneath behind & the last three in a regular series placed all round anterior edge above as well as below, so that he can progress on his back nearly as fast as on his belly. Color a greenish white transparent lighter beneath. An irregular dark speck annular on anterior & posterior margin of each

(8)

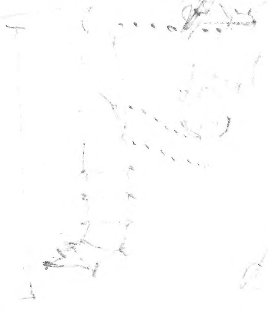
segment, ~~which is~~ lighter beneath. A retractile thorn $\frac{1}{20}$ long, at tip of tail.

Head small & not perceptibly horny or with any hooks. Burrows with great strength between the fingers, & walks on a smooth table fast & with ease. Skin very transparent, & as he progresses slides backwards & forwards over his internal organs like the finger of a glove. Head & first segment or two retractile. Tubercles not retractile. Bred ~~Between March & April~~ June or July a ~~changed to a~~ Pupa ~~not distinguishable from that of~~ mistake Tipula trivittata S. & same size; pupa ~~not~~ [illegible]

Sep. 19. Noticed on ears of Sweet Corn [illegible] infested with chinch bug in imago & larva states, hippodamia blood red maculata Degeer, coccinella no spot munda Say, & two species of scymnus – one black & one black with rufous tail. Noticed one pupa of coccinellid also.

R. V. Ankeny Rio Grande, Freeport, Stephenson Co. found his backsowing of wheat (which was uphill) free from chinch bug all over the field. (in case from stranger) – sown thicker or thinner? B.D.W.

Nov. 1860 Noticed under log on Rock Island in a hollow of the earth a spherical ~~loose~~ mass of a common black myrmica 2½ to 3 in in diam, enclosing in their midst a lot of larvae. No larvae visible outside,



Decidedly a Tipulid – larva like that of T. [illegible]

[illegible] sharp [illegible] [illegible] each [illegible] [illegible] for [illegible]

Pupa of ~~[illegible]~~ Midas? Asilus? W.II. [illegible] 5

May 15 – 61 [in sense can] found under log. [Very active] threw itself about, back & forth

1st May 1861

like too of that full in West [specimen prepared] flattened in glass pupa

[Came out [illegible] hatching]

~~[illegible]~~ footed wood feeding nocturnal [illegible] a pair) when attacked by [illegible] threw itself spitefully [illegible] one after the other [illegible] the pairs & pike them, exuding a black juice at the same time from its mouth. One which had attacked it on top of its neck, it shook off by violent contorsions & then killed.

May 20. Bred a Telephorus Carolina ~~(nervosus Lefor, yellow thorax & black disk)~~ from a pupa found under white elm bark amongst larva of cerambycids & Ichneumons. Preys on them?

May 21. Melandrya striata? 5. 4 or 5 found in rotten sapwood of bass & several pupa? of it. May 22 same under oak

Depths? trifasciata? imago under bass-bark. My two pupa? the same species?

Dendroides (with rufous & black legs) found hitherto under oak bark, imago or pupa. Today 3 imagos under bass bark.

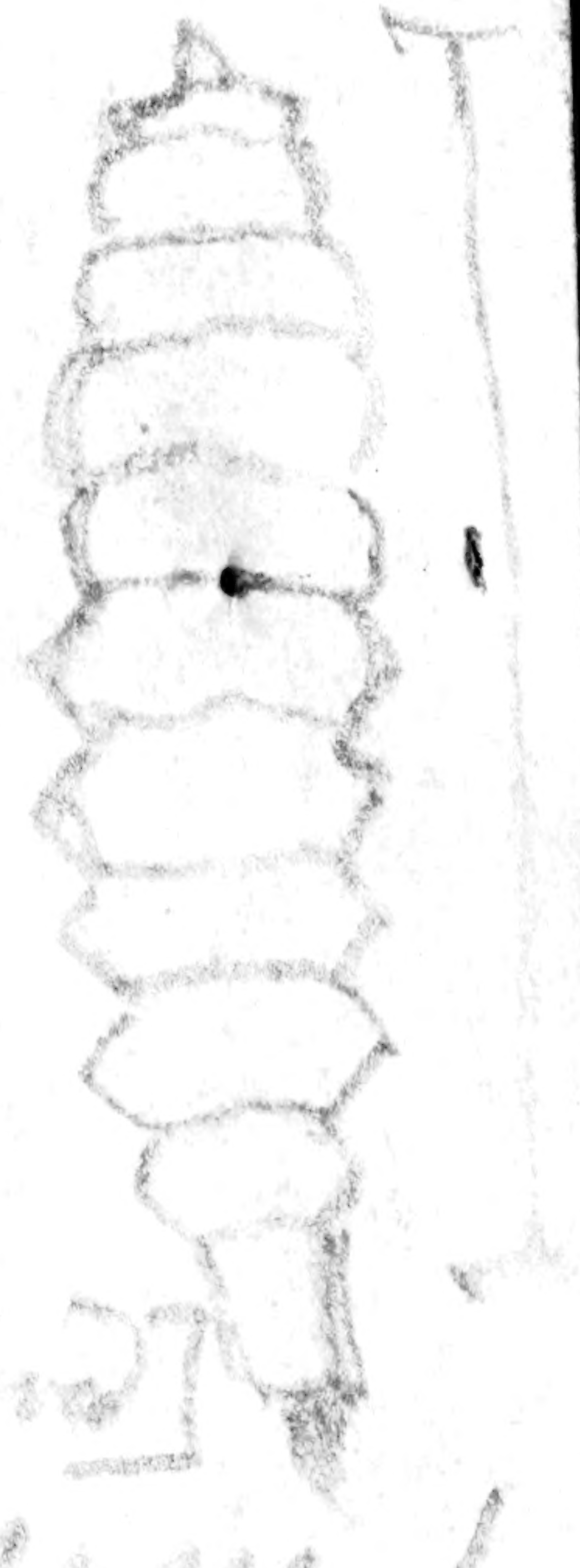
(9)

1st May
1861

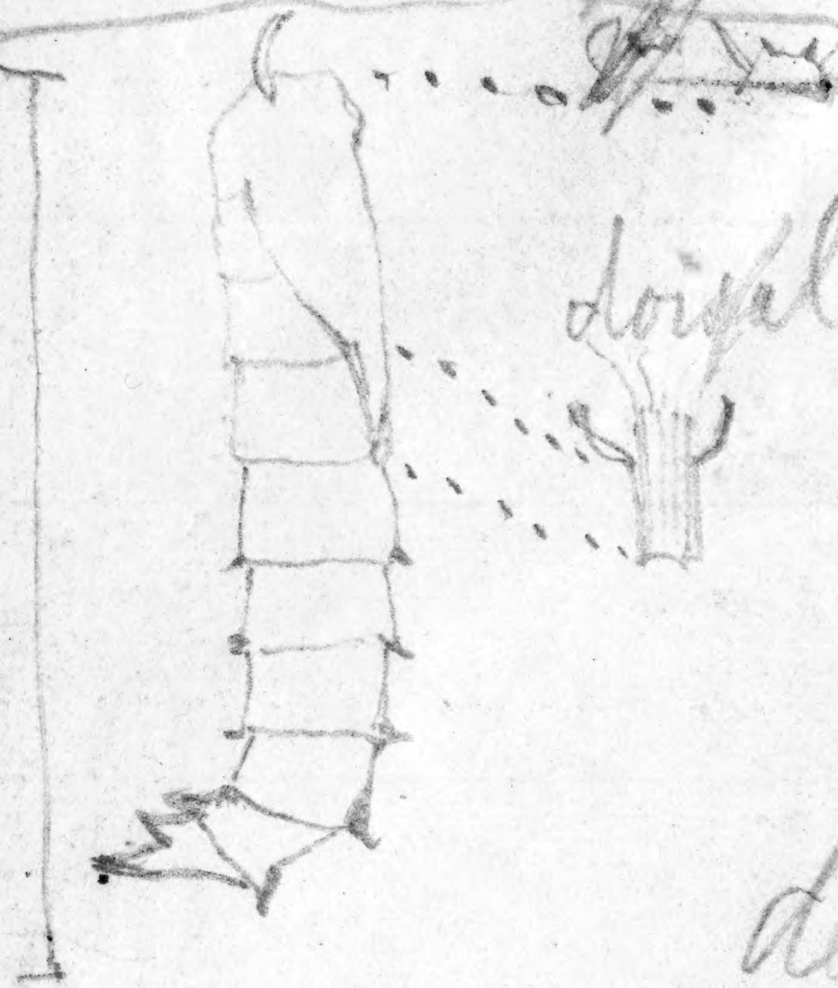
For
full

specimen
fragment

in glass
tube



Came out ~ (end may) largest
Common Tipula



Decidedly a Tipulid: tail like that of T. trivittata Say

spines strongly developed on back especially towards tail

Pupa of { Tipulid? [W II. p 524 f. 5] ~~Asilid or Midasid~~ ?

May 15. '61 [in square can]
found under log. very active
twisting itself ~~about~~, back & forth

segment, ~~which is~~ lighter beneath. A retractile thorn 1/20 long, at tip of tail.

Head small & not perceptibly horny or with any hooks. Burrows with great strength between the fingers, & walks on a smooth table fast & with ease. Skin very transparent & as he progresses slides backwards & forwards over his internal organs like the finger of a glove. Head & first segment or two retractile. Tubercles not retractile. Bred June or July a Tabanus ~~Between March & April changed to a pupa not distinguishable from that of Tipula trivittata? & same size.~~ mistake [pupa ...]

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like larva of Stratiomys in Westwood

[Came out a Stratiomys]

May 15/61, noticed the 14-footed worm feeding natural larva (of which I have bred a pair) when attacked by the common black myrmica, thrash itself spitefully round & seize 20 of them, one after the other in its jaws & kill them, exuding a black juice at the same time from its mouth. One which had attached it on top of its neck, it shook off by violent contortions & then killed.

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rastricornis Rond.

Larva of Alaus oculatus

Harris p. 48

black

mahogany

mah.

mah

light mah. to penult. segm

two wide

9

beneath & ground above light yellowish

light mahog-

extreme length over 2 inches depth .15,

width about .3. Walked 3rd

straight.

May 26. '61

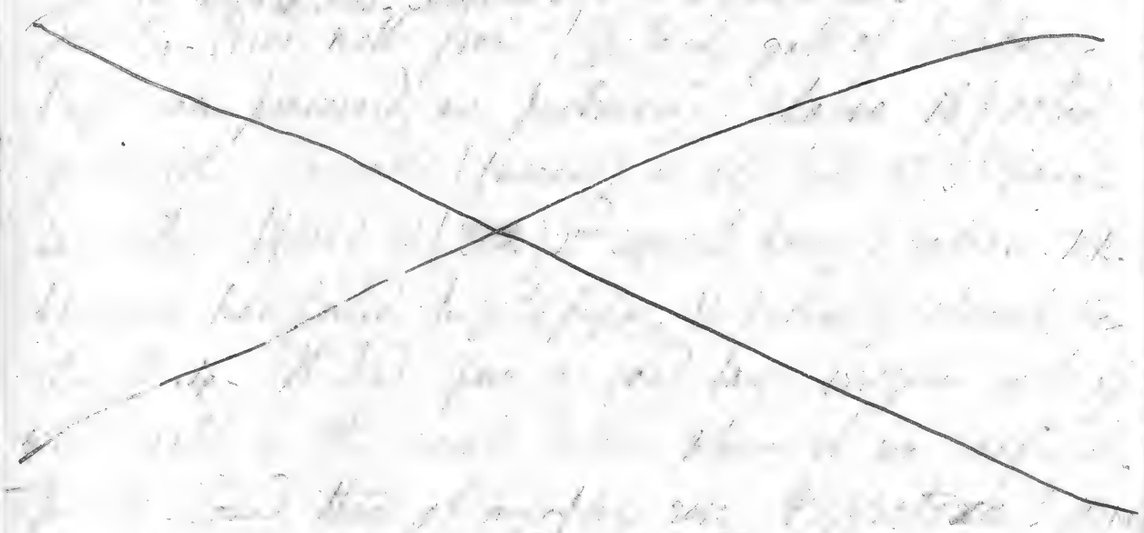
reens," La Moille,
3rd 11. 1861,

alsh, Esq.,
steemed Friend
Your kind and
ply to my letter
ti bee the ...

Gastricornis Rond.

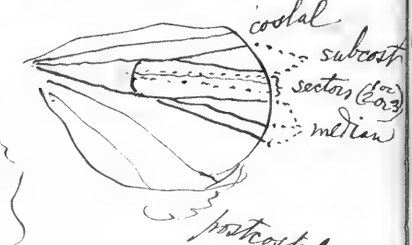
branchiæ

They are branchiæ



August 6. Dusk found among the weeds in his garden a chrysalis about 1½ inch long, cream colored, wing cases spotted with small round fuscous spots. Tip of 4 anteapical & ante-basal abd. segments edged with mahogany, anteapical not so broadly. Spiracles dark colored.

In the hind wings of Leucania unipuncta, the "arc" of Hagen is not, as in the Neurop., between the median & submedian nervures, but between the subcostal (or cubital) & the median. Thus:—



The normal type of a Lepidopt. wing may be seen beautifully in hind wing of Algeria, 1st & 2nd spec. in Cabt, where costal & subcostal are simple & almost coalesce, the sector has no prolongation towards the base & the median is tri-furcate. In some genera costal & subc. are bi- or tri-furcate; in others the sector is partially prolonged towards the base, but is obsolete before it reaches the base: In others the median is 4-furcate & the furcations variously arranged. The venation

of the upper wing is generally very similar & may be seen very clearly in Sophocampa tessellaris, but is generally difficult on account of the scales. Hence the lower wing chiefly to be used.

Scarites subterraneus?— took 5 specimens South which are .9 to 1 inch long, whereas R.I. specimens (as well as two taken South) are uniformly .7. One of these small southern specs taken in the harbor of Copis Carolina, has only the two post. punct. a R.I. specimen has no punctures; Say does none, but Latreille does I. 210. Two of the large southern specimens have hind punctum double transversely.

27. 1861. Found ...

Mound City. June 18. Saw the red (southern) species of Polybia that builds the bonnet-like flat nest eating a green 3/4 inch caterpillar on a honey-locust. No nest near.

near M. City
July 19. Saw on a human excrement (covered with red & black braconid (in cab.) Staphylinus chrysaurus sieze an anthophagus

July 8 & 9. Anna. Saw many Halictus pennsylvanicus underground on roots of peach-trees infested by Aegeria exitiosa. Also Agapostemon. The former swarms in

houses & apparently thins off flies.

July 10. Took lib. corrupta Hagen, lighter-colored as with specimen taken July 4. 1861 at Rock Island. Black spot, dorsal, 2 ant. segments abdomen. [Afterwards took other specimens, one of the usual color, but all differing in having "rajes" on thorax, (instead of mere dots) more or less developed.]

Near ~~Hamilton Co~~ Anna noticed under bark of a post a pupa (hymenopterous?) enclosed in cocoon ○ with two or 3 small (starved?) larvæ by its side [found near Anna] Description of larva & pupa Papilio Thoas? [died]

found another specimen on a wild cherry end of September '61, which has gone to pupa in North cap.

(♀

wrinkled?

wrinkled ♀?

{♀?}

Clover Worms.

We have received from Richard Wray, of Mc. Henry county, another installment of those pests found in his clover stacks. Mr. W. says he is feeding the same kind of hay from a mow in the barn, and all the lower part of it is filled in the same way as the stacks that have been described. He finds in cold weather they keep very close in their webs, but crawl out in pleasant weather. He further says that he believes the eggs are laid in the green clover before cured, and the sweating of the stack hatches them out. He has grown clover hay for fifteen years on the same farm an this is the first appearance of the worm.

IV.

—M. de Thoron has addressed a curious communication to the Academy of Sciences on the subject of certain singing fish that inhabit the seas as well as rivers of South America. He specially mentions the Bay of Pailon, situated north of the province of Esmeraldas in the Republic of Ecuador, where, being in a boat, he was suddenly startled by a deep humming noise which he attributed to some large insect, but which upon inquiry turned out to be a kind of fish called "Musicos" by the people of the country. On proceeding further the sounds became so strong as to remind him of the strains of a church organ. These fish live both in salt and in fresh water, since they are also met with in the river Maraje. They are not more than ten inches long; their color is white sprinkled with blue spots, and they will continue their music for hours without minding any interruption.

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That said tax shall be paid to the Town Collector of the Town where such dog may be owned or kept each year previous to the return of the Collector's book. That the Collector shall pay over on oath, (after deducting a commission of three per cent. as compensation for collecting,) to the Commissioners of Highways, to be by them expended in repairing the roads and bridges of the town; said payment to be made at the time of the annual settlement of said Collector with said Commissioners; and that said Collectors shall keep a record of the payment and a description of the Dogs on which payment is made, and give a receipt for the tax, containing a full description of said dogs.

The constitutionality of such enactments has not been tested, but is in some quarters questioned. We believe there should be a stringent

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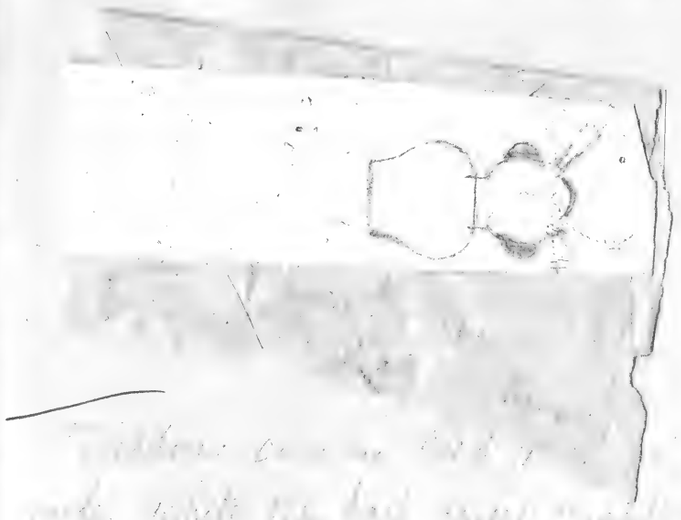


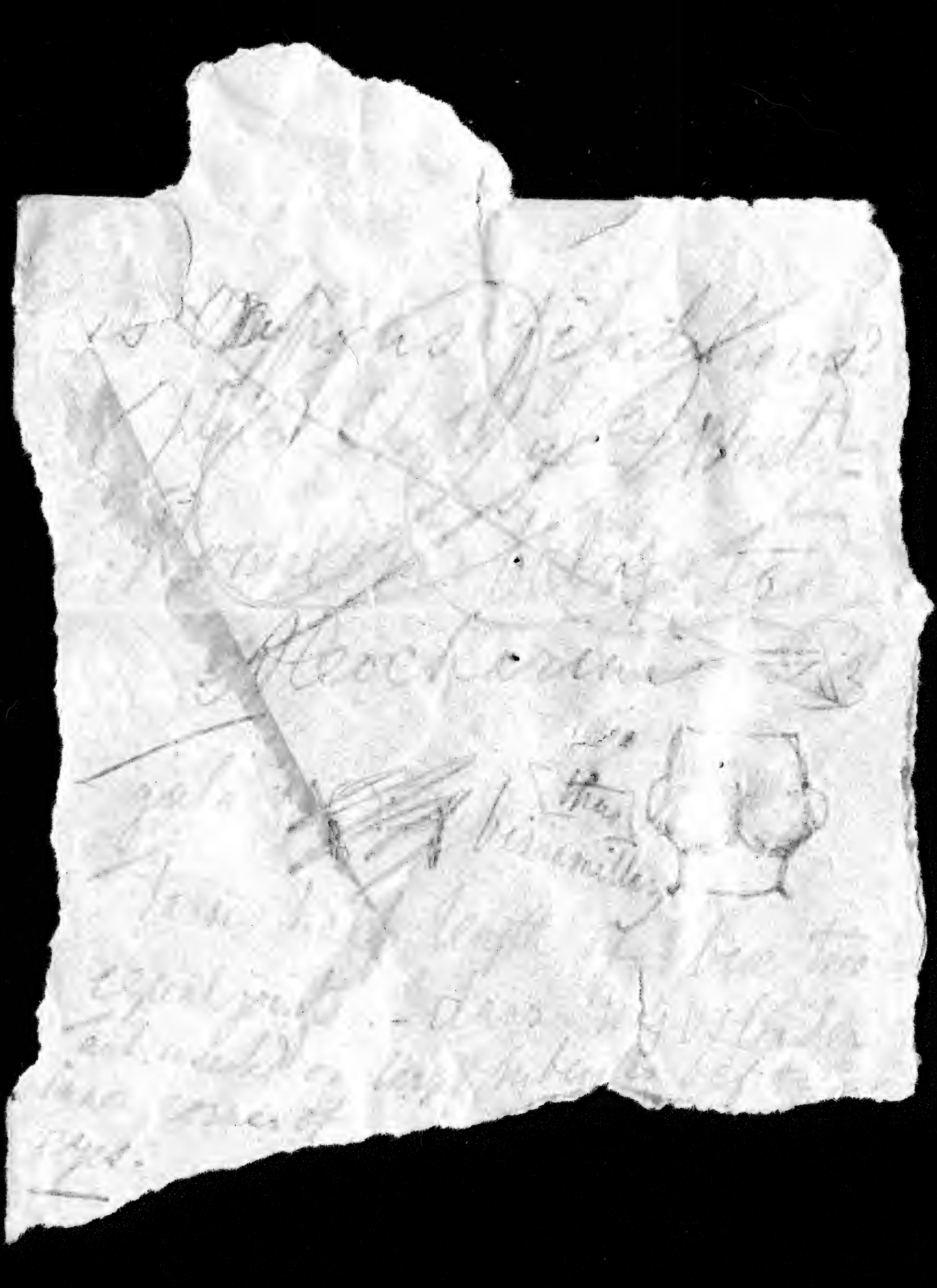
FARM MANAGEMENT.

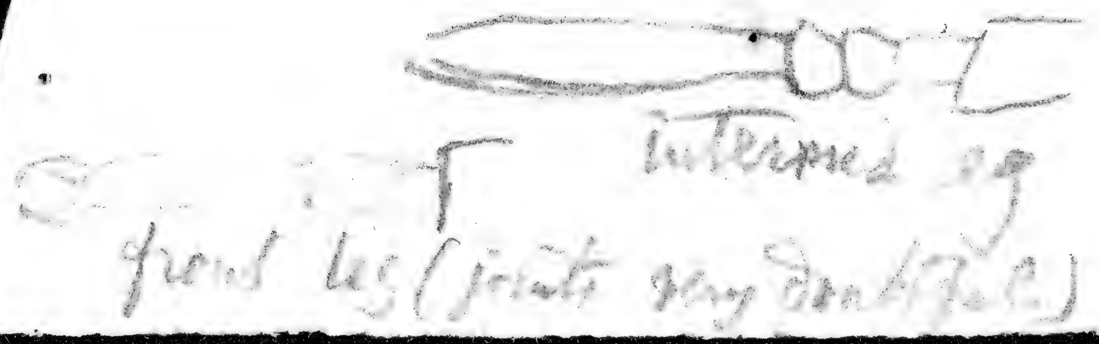
Statement of Farm Management and Products, for the year 1861, by S. W. Arnold, near Cortland, De Kalb county, Illinois, to whom was awarded the second premium on farms of 160 acres and upwards.

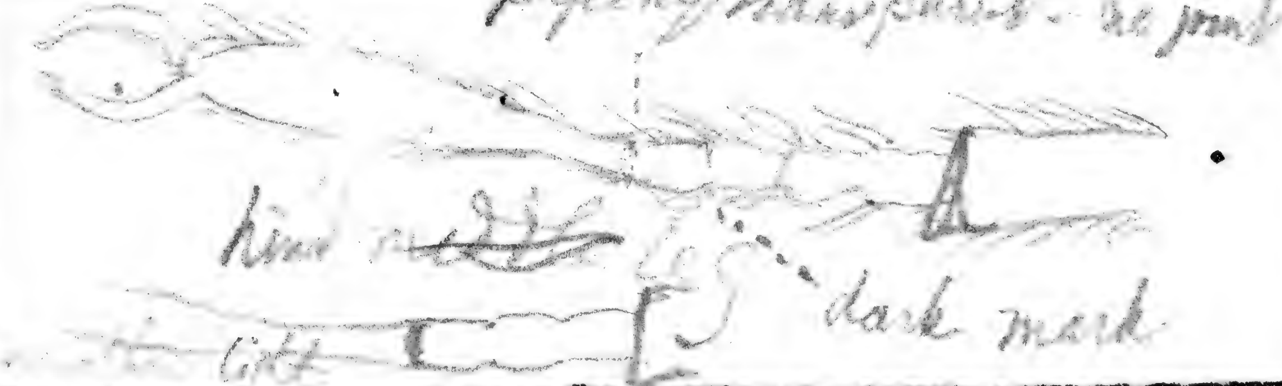
The oat crop was dimi[nished by grass]hoppers, who eat off the [blades of] grain, and the sod at t[he time] the sod that forms arou[nd the]

ress. There are instances with farmers in which debt can hardly be avoided, as was the case here in 1856 and 1857; the grasshoppers destroyed our crops two years in succession, and many had given credit to those who became involved at the time of the financial crash; the latter might perhaps have been avoided by judgment, and perhaps a better knowledge of natural history and science may have aided in providing against the ravages of the grasshoppers. One fact I noticed, although they ate the bark from saplings, and consumed our corn, tobacco, etc., ate holes in clothes hanging out to dry, destroyed boots and shoes when they lit on them in the house, yet peas they avoided, and it was an odd sight to see the field completely stripped, even of the weeds, and the pea patch left undisturbed. There was no turning to the right or left with them, they went hopping on to the tune of John Brown, and they may be hopping yet for aught I know. I only hope they will never come here again. Many resolved then to keep two years supply of produce on hand afterwards, but I fear most of us have forgotten the good resolution made in time of distress, as is often the case. O. H. KELLEY.

Anoka Co., Minnesota, June 28, 1862.




intermed sg
front leg (joints very doubtful)


perfectly transparent - no joint
hind
dark mark

2nd [illegible]
3/4 of [illegible]
[illegible]
[illegible]
[illegible]
3 [illegible]
[illegible]
all [illegible]

When, after the birth of the last of her litter of six, &c. little ones were put to the udders of the mother, and b gan to draw their natural food, at that moment the spe was broken, and the measureless love of the mother wa developed—it flowed with her milk. Though the proces of putting the little pigs occupied scarcely a minute, ye that short interval sufficed for the great change, the birt of an affection that was to be boundless and untiring s long as her little one needed the mother's care, for upo one of her young uttering a cry as I placed it beside her she turned on me with a roar of anxiety and anger tha sent me with a leap to the other end of the enclosure The development of hoggishness and spite in the young pigs immediately after birth, was both surprising and amusing; they would contend fiercely with each other fo food, and when obtained would defend themselves from their fellows by moving their hinder parts towards the quarter from which an intruder approached.

Marblehead, Mass. JAMES J. H. GREGORY.

[For the Country Gentleman and Cultivator.]

REMEDIES FOR CRIB-BITING.

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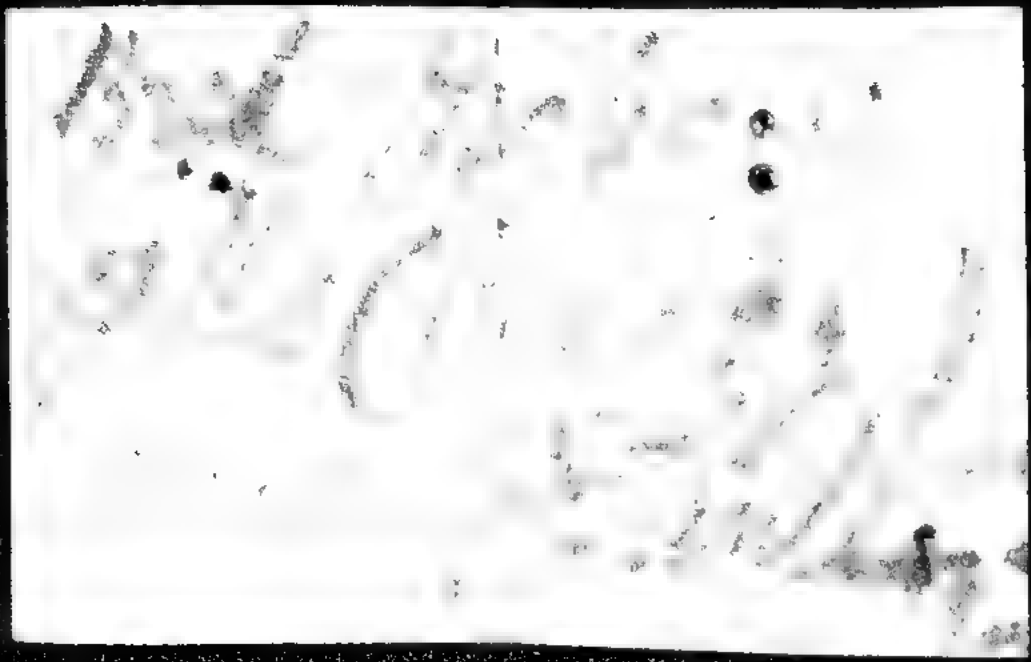
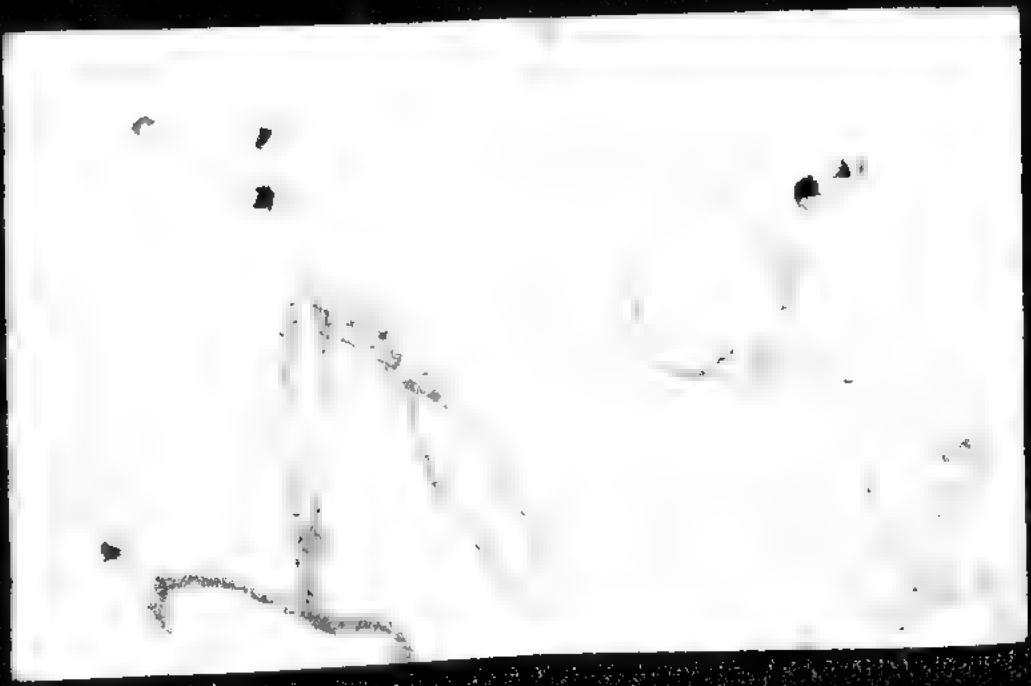
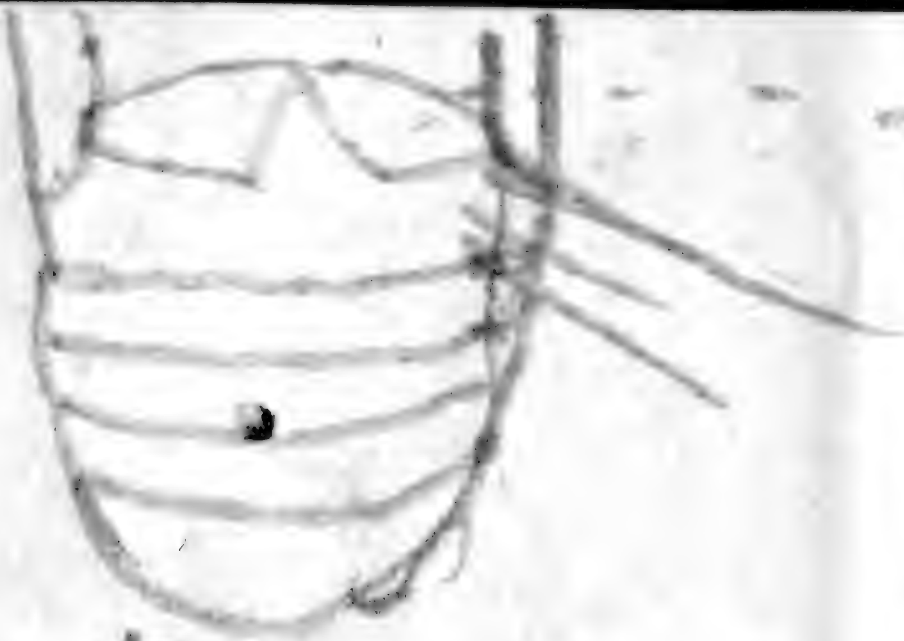
Anoka Co., Minnesota, June 28, 1862.







interm. cox widely separ'd
ant. cox long conical-cy-
lindrical & very prominent
interstices bristled

last bars pt longer
than all the others

hind ther

(scut. obsolete)
fitting between
elytra

Ant. = scolytus
labrum obsolete
jaws = scolytus

[illegible]

Nondescript — Malachidæ.

FARM MANAGEMENT.

Statement of Farm Management and Products, for the year 1861, by S. W. Arnold, near Cortland, De Kalb county, Illinois, to whom was awarded the second premium on farms of 160 acres and upwards.

The oat crop was diminished at least 10 bushels per acre, by the grasshoppers, who eat off the heads, the ground being literally covered with grain, and the sod at the time of plowing this fall, was very much like the sod that forms around where a threshing machine has been used.

mistake: did not in 1864

Recd. March 1862 from John P. Reynold, 4 specimens of "Leucania unipuncta" caught in the Spring of 1861 flying about the cherry trees in the evening when the trees were in blossom" by Phil. M. Springer of Springfield, who sent them to Reynolds

May 1862 Strata on boring Artesian well at Depot R. I.

117 ft. Limestone
6 or 7 in. Shale
5 ft. Sandstone
1 ft. 6 in. Bluish limestone (like that at Coal Valley)
2 ft. 2 in. Coal
6 to 8 ft. Sandstone (getting more calcareous) White

May 1862 Put 5 or 6 larvae of Corydalis cornutus in water (29
of River; 3 or 4 rolled themselves up & were carried away by the stream. Two crawled out of the water. One of them climbed up an adjacent very smooth barkless stump 3 ft. high: used his anal process to as a proleg: did not use the ventral processes: attempted to climb down the same stump & lost his hold & fell into the river.

Light brown limestone 10 ft.
White marble 10.
Light gray limestone 10

The canker worms are very bad this year in Massachusetts—never worse, says *The Salem Gazette.* All remedies but the oldest fail. This is, pine tar to prevent the ascension of the worms. No material has as yet been found better adapted for this purpose, and cheaper, than the tarred paper, which is used for sheathing, and sold at the hardware stores. It is usually cut into strips six or eight inches wide and fastened round the trees, with a few tacks. But first it is well to tie round the tree a narrow roll of cotton batting, to prevent the ascent *under* the tarred paper of the grubs, through any of the crevices in the bark. The cotton, too, if it project a little below the paper, will keep the drip of the tar from running upon the tree.

A geometer caterpillar (oak?) 1½ or 1¾ long
shewed no disposition to feed in October nor Nov.,
& remains (Nov. 9)  on the left
upper side of the wire breeding-case.

Curtis (J.) Farm Insects; being the Natural History and Economy of the Insects injurious to the Field Crops of Great Britain and Ireland, and also those which infest Barns and Granaries, with Suggestions for their Destruction. By John Curtis. Royal 8vo. pp. 534. London. Cloth . 8 00

Cuvier (Baron). The Animal Kingdom, arranged after its Organisation, forming a Natural History of Animals, and an Introduction to Comparative Anatomy. Translated and adapted to the present state of science. New edition, with additions by W. B. Carpenter and J. O. Westwood. Royal 8vo. pp. 710. London. Cloth 7 75

Damon (Robert). Handbook to the Geology of Weymouth and the Island of Portland. With Notes of the Natural History of the Coast and Neighborhood. Accompanied by a Map of the District, Geological Sections, Plates of Fossils, Coast Views, and numerous other illustrations. 12mo. pp. 200. London. Cloth 1 55

D'Armailhacq (A.) La Culture des Vignes, la vinification et les vins dans le Médoc, avec un état des vignobles d'après leur réputation. 2e édition. 1 vol. in-8vo. pp. 576. Paris . . 1 75

on the animal and vegetable productions of New South Wales, New Zealand, and some of the Austral Islands. 8vo. pp. 460. London. Cloth 6 50

Berkeley (Rev. M. J.) Outlines of British Fungology; containing characters of above a thousand species of fungi, and a complete list of all that have been described as natives of the British Isles. 8vo. pp. 470. London. Cloth 9 30

—— AN INTRODUCTION TO CRYPTOGAMIC BOTANY. PROFUSELY ILLUSTRATED. 8vo. LONDON, 1857. . . . . 5 00

Bernardi. Monographie des genres Galatea et Fischeria. Avec 10 planches, coloriées. 4to. Paris 8 00

Bewick (Joseph). Cleveland Ironstone: a Treatise on the Ironstone of the Cleveland District, North Yorkshire. Illustrated by a large Geological Map of part of the North Riding of Yorkshire, also sections of the strata and of the Yorkshire coast, in colors, with plans of pillar workings. Royal 8vo. cloth, lettered. London. 6 50

A geometer caterpillar (oak?) 1½ or 1¾ long
shewed no disposition to feed in October nor yet,
& remains (Nov. 9)  on the left
upper side of the wire breeding-case.

15 [illegible]

Aug. 14. Took many specimens (bank of Slough in field near Fair Grounds) of "Xiphidium undescribed?" with the ovipositor nearly 2 as long as body. Pupae (even with rudimentary wings) had the ovipositor equally long & my specimens in Cabinet. The ♂ anal appendages seem to vary in shape a good deal. An annuary variety? yes.

[See p. 31

Aug. 28 Found many larvae of [illegible]
[illegible] on these, & some in nest —
McCook. large brown beetles [illegible]
pretty with a mixture of [illegible]
Carolina. Twice as heavy [illegible]
+ It holds it [illegible]
[illegible]

[illegible]

[illegible]

[illegible] with a large [illegible] above.

[illegible]

[illegible]

(?)

[died or failed]

LOCATION OF AG. COLLEGELS.—Will you please inform me, through the columns of the RURAL, where the different Agricultural Colleges are situated? and oblige—CANADA, *Forest Station, C. W.*

In the RURAL of April 12, 1862, we gave an article on Agricultural Colleges, stating the location and condition of the most prominent ones. Among those in operation are the Michigan Ag. College, located at Lansing, the capital of the State; the Farmer's College, at Farm School, Center Co., Pa.; and the Maryland Ag. College, located ten miles from Washington, D. C.

Feb. 18. 1863 Noticed several small Wild plum trees 7 or 8 ft high on the R.I & C. R.R. beyond Brookes Orchard just this side of an open cattle crossing to the left. A great many of the limbs & twigs of which were covered (chiefly on one side) with slits, the bark gaping open. These slits were about ⅛ inch long, longitudinal, & contained each from 7–10 white semitransparent, flattish, oval eggs, 2½ times as long as wide, placed obliquely & the outer tips pointing upwards. In a twig .3 inch in diameter & in 1 inch of its length I counted 34 of these slits, & the rest of the twig was the same. Each slit, on stripping off the green bark, was brown, the brown color extending a little on all sides of it, & the green bark itself was similarly discolored. The whole tree was not thus supplied, only particular limbs & twigs. Often 50 of the eggs were generally imbedded into the sapwood about half their length, sometimes nearly their whole length.

[June hatched to a green sp. of Empoasca p.56

On carefully examining my pear-tree (which had last August some few chlorosis on it) I find here & there a twig with precisely similar slits (2 or 3) only the eggs are 3 times as long as wide. Otherwise arranged exactly alike.

Feb. 20 Found a few similar slits on pear & apple in Boyer's orchard. Kinney tells me that 8 years ago Dr. Gregg's apple trees were full of such slits, & there was "blight" there. He has long noticed them & the eggs in them, he says. On the apple the eggs seemed not flat, but cylindrical, & rounded at tips

Feb 21. Found eggs & slits on a young crab near the wild-plum trees, about a dozen in a twig 2 inches long & .4 diameter: eggs cylindrical fusiform, 3 times as long as wide placed ••• (not ||||) outside tips rather more pointed than inside tips, .07 inch long. When 2 or 3 slits were together, they were confluent into a large round rough scar on larger twigs .4 inch diameter.

Found similar slits & eggs on twigs of a young burr-oak & also on those of shag-bark & white hickory, all in the close vicinity of these plums.

FROM NEAR VICKSBURG.

MEMPHIS, April 2 (*via* CAIRO, April 4).

The health of the troops is good, but horses are dying by hundreds, in consequence of being stung by gnats,

43 In Pimpla ♀ (Hymenopt.) there are eight dorsal segments to abd. & ovipositor is attached at end of 5th ventral.
In Mantis ♂ 9 dorsal, & only 8 ventral (ita Westwood)
" " ♀ 9 " " & ovipos.r at tip of 6th ventral, the écaille vulv. covering the other jts.

March 29. On Camden R R (West side, field) noticed several fungus – cockscomb-like galls on tips of twigs of sycamore. Inside many dead larvae & ~~one~~ two winged Byrsocrypta, apparently = vagabunda Walsh

cecidomyia
(= inquilinous cecidomyia [~~of Osten Sacken~~]

v. podagrae Walsh) [from common E. of old slaughter house]

44

[yes: his species]

no adult = Mymar

N.P. It is ~~only~~ in* ~~Neuroptera~~ ~~Odonata~~ [Neuroptera & Hymenoptera ~~Diptera~~ ~~Coleoptera~~] on a/c of the relative largeness of the hind wings, that the 4 general segments of metathorax are most ~~easily~~ distinctly traceable & it affords a good example of the "unity of ~~design~~ plan" of animal creation; ~~the~~ that in Ephemerina (closely allied to Odonata) they are equally plain, though the hind wings when present are very short & ~~in some~~ are traceable even in those sub-genera where the hind wings are absent; while in the genus Sphex [or Pompilus?] which has larger wings than any other Hymenopt. & where consequently the metathorax is very large, they are scarcely better developed ~~more easily traceable~~ than in ~~any~~ other Hymenoptera, the metathor. praescutum only being greatly enlarged.

P Prof. Westwood says "it is only in the prothorax of some Locusts that the dorsal subsegments of the prothorax can be traced." In most Reduviidae & also in Belostoma & Ranatra (Heteroptera) there is a single transverse connate suture as in Tettix, indicating two subsegments!

{ Hipparchiscus venustus Walsh

See next page

Noticed May 9 or 10 (or 11) many Mymar on the elm trees.

(May 15) Cynips podagrae — One ♀ bottled May 11 still retains the pale rufous ground-color

Of a lot butchered today (May 15)

{ 2 ♂ pale rufous & 1 ♀ rufous (g.c.) (bottled May 12)
{ 3 ♂ pale rufous (g.c.), 10 ♀ pale rufous (g.c.), 2 ♀ rufous (g.c.) (b. May 12)
{ ~~4 ♂ black~~, 1 ♂ very pale rufous, 4 ♀ black (head rufescent)
all 4 small, 3 ♀ rufous (g.c.) (bottled May 13)

{ 1 ♂ pale rufous head (g.c.), 2 ♀ body black, 1 ♀ (as small as the 4 small ♀♀ of May 13) black, head rufescent, 2 ♀ pale rufous (g.c.) podagrae bottled May 14th } 14th

N.B. observed in bottle pale & dark individuals, ♂ mounted on ♀, but not coupled.

— 2 species

1st pseudo podagrae. pleura (but differs slightly) & mes. proscutum [collar] rufous, head rufous with a large black spot on ocelli, abdomen piceous, rufescent beneath

— 2nd podagrae (described before) head black, mouth & front pale or rufescent, vertex black, body black. ~~(a cuckoo cynips?)~~

These two between May 10 & 15th came out together from the same galls in numbers.

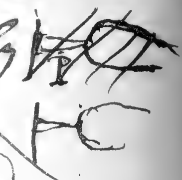
— The 1st belongs to Hartig's A, II. (i. inquiline) the 2nd. (which came out soonest) belongs to A. I, & is the true maker of gall, no doubt. Besides the 1st inquiline, I have reared ~~7~~ 8 ♀ of another (mistake?) inquiline from the same galls which is black, & closely resembles podagrae, but neuration is different but is smaller = mendax

~~together, but~~ the galls had many holes, made by ~~parasitous cynips~~

May 17th Oak-leaves scarcely yet full-size (about 3/4) on ... of late spring, yet found numerous oak-apples, all with terminal nipple, near Slaughter-house on the Flats. Larva in them half-grown, & many of the apples full grown. Skin thick as apple of aciculata. Are not these the spring-brood of aciculata & both ♂♀? My ♂ aciculata came out from a gall with very thin skin before July 5. On the same trees, still hanging on, were many galls of last year, perforated with small (parasite) holes & some by many Synophri, all of which had nipples.

May 18. Observed 2 ♀ Mymar beneficus prying repeatedly into slits but not ovipositing. One once fixed itself bolt upright on its hind legs, balancing itself behind by its wings as a Kangaroo by its tail, in the manner stated by (not Scudder) to be adopted by the Platygaster that oviposits in the Canker-worm eggs, but did not oviposit nor introduce its abd. tip.

The abd. ♀ is clearly peduncled, peduncle as long as width of abd. & apparently



~~Cynips~~ cecidomyious gall quercus-pilula Walsh ~~[illegible]~~ ♂ ♀ cynipids today. The larva apparently often goes into the ground to pupate, for I found at bottom of jar (no sand) 10 or 12 orange (cecidomyiid) larvae (dead & dry). Other galls (1) had living, or at all events succulent, larvae in them. As this is an inquiline ♂ ♀, probably the true tenant belonged to the larvae & is unknown. ♂ ant. 15 j., ♀ 12-j., last 5th

May 17. Dug out of galls of Q. ficus many dead wingless ♀ cynips (description apud Fitch Q. ficus. ~~A doubtful inquiline (from p 47 bottom) may also be referred here with probability~~ [Mistake of jars.]

{in bright light a trifle paler & reddish}
{in the normal pale spots.

to gall of Q. spongifica [illegible] ~~[illegible]~~

{coccinea
{spongifica — G

mistake

[varieties have the terminal nipple absent, but have small nipples, scattered irregularly on surface

[Some of these galls (same lot) thin shell, some thick]

[made by a Lepidopterous larva: canal at work in gall of Q. inanis

(of ~~[illegible]~~ ?) {coccinea / spongifica} [See p 52)

Green, spotted, head brown, one spun in jar June 5

54)

May 27. Galls on Amorpha fruticosa. Those with large holes (•) contained Lep. pupa: those with small holes or none Ichneum. pupa in cocoon. Sometimes those with no holes contd. dead Lep. larva. In none could I find traces of Lasioptera & its cells.

[membracida]

[Edwards, Lupe]

(52

June 4. Opened several galls obtained May 24 & 25, & found 1♂ & 2♀ {coccinea / spongifica} full winged & some in larva & pupa: ♀ has 13-jd. ant. last joint long & with a faint

If, as I believe, cynips q. coccinea (= spongifica) (the difference being only in the relative thickness of shell of gall & both kinds occurring indiscriminately this spring in the same lot) is the spring brood of c. q. aciculata (which is agamous & ♀ only like spring & summer broods of aphidae), there is no material difference in the structure of antennae, both kinds being 13-jd. with the last jt. connate, making in all the typical 14-joints. But there is a most wonderful difference in the sculpture, that of spongifica being much coarser on thorax, & according to O.S. p.246 in shape of abdomen. aciculata must be confluens Har. because the others (spongifica & coccinea) are not autumnal but vernal joints. But, on my theory, they are all identical.

Very numerous q. inanis galls were on white oaks. Diameter 3/4 — 1 1/8 inch. Probably c. quercus inanis is the spring brood of c. q. centricola O. S. p. 58 Trans. Ent. Soc. He distinguishes them by the size of the galls chiefly.

Have found galls of c.g. palustris abundant on two adjoining trees 1st laurel oak. 2nd g. tinctoria. Bred only parasites, but am sure the galls were identical, for kept destined & bred the same parasites. Next year from galls on g. tinctoria bred the c.g. palustris which o.s. bred from that oak. Hence same insect on 3 different oaks.

~~Still~~ acicularis & spongifica are confused at K. I. To g. tinctoria.

I suspect all these species are identical, & that the difference in the galls is caused by the difference in the species of oak. Will they breed transversely, i.e. g. inanis produce acicularis on black oak, & g. spongifica produce centricola on white oak? Try it. Well, again, acicularis produce spongifica on black oak & g. inanis on white oak? Try it.

Notice one or two galls of g. inanis barely (not sparsely) as spongifica

June 10. Inside central kernel of gall of C. quercus inanis found 3 white larvae [Others of spongifica 7 or 8]

June 13. Placed in a gauze bag on black oak on Dunlap Farm East of RR & just in the opening (or the wood) before the old fence, South side of tree, (notches cut on an old dead limb) 5 lively ♀ Cynips Q. spongifica & 1 rather weakly ♂ ditto. June 16. undisturbed. 8 dead 2 ♀ alive?

A

June 14. I notice that hitherto all my galls (except one today) that have produced spongifica flies have been thin-shelled or = c.g. coccinea. Such galls are brown & ripe now. Whereas the hard-shelled & thick-shelled ones are green more or less. Hence I conclude that the difference in the galls is caused by the early or late puncture — the thin-shelled being the earliest. Similarly (on my theory) the acicularis galls are very thick-shelled. There are intermediate grades between the two types of galls.

B

B ✕ Gauzed today 9 c.g. spongifica 4 lively ♀♀ & one sluggish ♂

Place, bb. 4 inaculata cane (South side) round opening — Snake Place on a young white-oak. In red oaks 50 to 100 yards off found g. inanis galls, placed in a jar by themselves. ~~Hence as~~ In two instances [June 16. undisturbed 2 ♀ dead.]

could not walk & lay on her side; so B

these red oak galls grow out of the stem close to the origin of the leaf, not out of the leaf as usual.

O.S. says (p. 241) his "q. rubra" is in most cases q. coccinea, which according to Brendel is a variety of q. tinctoria. Harris probably made the same mistake when he located his q. confluens on the red oak. O.S. (p 243) is doubtful whether his q. tinctoria occurs on q. rubra or coccinea. Young trees (2-5 inches in diameter) of rubra may be distinguished by the bark [illegible] smooth & glossy except towards the base, whereas in tinctoria it is rough.

On the whole (see my remarks on O.S. 246-8) I am of opinion q. coccinea = spongifica = tinctoria & q. discolor & cuneata & castaneifolia are the metagenetic type of the 3 first, which three first are generated by parthenogenesis. No species of any animal, even hermaphrodite, can propagate indefinitely without intercourse with another individual, otherwise variations would be indefinitely exaggerated & the number of species thereby produced would also be indefinite.

June 15 The gall of Phylloxera caryæ-globuli splits open X: I have such a gall on the leaf-stalk of the leaflet, split in this manner. Therefore Ph. caryæ-caulis = C. globuli Walsh, the insects being undistinguishable. This gall is thus ⟨ opening below, like caryæ-globuli, but X not —.

June 16. A few q. g. coccinea or spongifica galls occur that have scarcely the least vestige of nipple at top

N:

Mr. CUMMINGS observed that he did not know that we have any bird here about that eats the rose bug, curculio, nor catterpillar. He protects the birds, and has protected the squirrels until he found that the common red squirrel is a great destroyer of bird's eggs and young. They even come around the house and gnaw into the wren boxes.

June 18 [illegible]

July 1. from ~~[illegible]~~ egg-slits of the crab (R. R. tree) obtained ~~[illegible]~~ 8 perfectly hatched tettigoniae from 7 different slits, apparently from the shape of head, *Chl. malefica*. They lay inside the slits, but were motionless & apparently dead. Most of the other eggs are empty, preyed on by Mymar? They were white, eyes dusky. No thorns or prickles. 1 larva first hatched (Membracidae) Several other eggs were dusky at tip, besides 2 black eyes, similar to one observed at Bloomington. Were these Mymar? Observed a dead ♀ Mymar in egg-slit with antenna fully developed. Some of the hatched tett. (1 or 2) lay with the head the wrong way. Did not observe any membracide larvae.

June 31. Observed a dozen & more full-winged tettigoniae on R. R. crab, but c^d. not catch any. Also, on a cursory inspection, several very young tettig. larvae.

N. B. There had hatched between June 24 & 31st. 2 or 3 membracide larvae from a bottle full of pear crab & elm infected twigs taken to Bloomington.

posticatus? Schonherr

{Corticaria pumila Melsh}

July 4 - Noticed pupa of Conocephalus & also of Caloptenus bivittatus? or the closely allied species, both of which had short wings, flattened & veined in the peculiar manner which in Locustadae & Gryllidae seems always to indicate the pupa state

July 9. Rec^d. from J. H. Carroll Co 4 larvae, flattish about .2 long, with a lateral & dorsal row of spines & two bifurcate caudal appendages.

ampla, [illegible]
was [illegible]
infected [illegible]
the [illegible]

Living in the inside of the ~~above the [illegible]~~, the diseased [illegible] cutting off partially the last ~~[illegible]~~ [illegible] oats are blasted & come to [illegible] in one of the ~~[illegible]~~ joints .07 - 0 inch in [illegible], a 16-footed caterpillar [illegible] Head [illegible] mandibles black.

July 10 [illegible]
me ma[illegible]
by a [illegible]
the st[illegible]
Come [illegible] insure ripe for 2 weeks.

~~Body~~ ~~green~~ ~~black~~ except joints 1 & 12 which are honey yellow above & pale watery greenish laterally & beneath as is also the anterior $\frac{1}{3}$ of 1; both 1 & 12 with a lateral shining black vitta above the line of spiracles, which on 1 does not nearly attain the head; joints 2–11 with a whole dorsal vitta, & another above the line of spiracles, obsolete ~~on 4–7~~ from the middle of 3 to ~~the middle nearly the top~~ of 7; beneath the ~~4~~ line of spiracles ~~third another~~ ~~white~~ vitta on 1 & 2, wider on 1 where it encloses the spiracle which is black. Legs black, shining; origin of ~~legs~~ dusky; prolegs pale — watery green with their origin the same, but a little dusky on ~~pp~~ 6 & 7. ~~Venter~~ Beneath pale watery green, obfuscated on ~~pp~~ 4 & 5.

3 ~~2~~ specimens, Alcohol. vial No. 1.

living in the inside of the stem of oats in ~~the 4th & 5th~~ Two or three of the middle joints ~~above the roots~~, the diversion between which it gnaws through, cutting off partially the ~~last~~ joint inside the sheath so that the oats are blasted & come to nothing, & perforating a round hole in some one of the ~~4th & 5th~~ joints .07–.08 inch in diameter for the moth to make its exit, a 16-footed caterpillar ⅞ to 1 inch long & .08 to .10 inch in diameter. Head honey-yellow with a lateral black streak tapering at both ends; mandibles black. ~~~~ Σ 5.07

About end of June noticed one of these larvae at large close to a young piece of wheat in a field

July 1. From ~~the~~ egg-slits of the crab (R. R. tree) obtained 8 perfectly hatched tettigonias, apparently from 7 different egg-slits from the shape of head, chl. malefica. They lay inside the slits, but were motionless & apparently dead. Most of the other eggs are empty, preyed on by Mymar? They were white, eyes dusky. No thorns or prickles. 1 larva just hatched (membracide) Several other eggs were dusky at tip, besides 2 black eyes, similar to one observed at Bloomington. Were these Mymar? Observed a dead ♀ Mymar in one slit with antennæ fully developed. Some of the hatched teth. (one) lay with the head the wrong way. Did not observe any membracide larvæ.

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Corticaria? Schönherr

{Corticaria pumila Melsh}

July 4 - Noticed pupa of Conocephalus & also of Caloptenus bivittatus? or the closely allied species, both of which had short wings, flattened & veined in the peculiar manner which in Locustidæ & Gryllidæ seems always to indicate the pupa state

July 9. Recd from J. H., Carroll Co 4 larvæ, flattish about .2 long, with a lateral & dorsal row of spines & two bifurcate caudal appendages. Head large & flat. Larvæ of Cryptocheta ampla, [or Phenolia grossa] a specimen of which was brought me by Dr. Velie from Geneseo infected locusts, he supposing they destroyed the locusts, as J. H. does.

July 10. Mr. Wm Miller of Pleasant Ridge informs me many oat-straws with him are attacked in a worm 1 inch long, so black, inside the straw just above the lower joint. Oats come to nothing. Will be ripe for 2 weeks.

59

July 8 [faint, erased text]

[Came out July 31 & escaped me]

*

*

✓

✓

*

✓

Pygaera albifrons larva p. 35

✓

✓

guttata

*Phycita nebulo P. F. & other descriptions (Dr. LeConte) & its larva p. 18


willow galls are C. strobiloides, Loew's Monograph; (known only in larva & central pupa unnoticed.)

July 15. In a lot of R.R. willow galls (undescribed & different from C. salicis Fitch = rigidae Loew galls) found in the centre of each sub-gall  a pale larva, with no colored or horny head, see p. 138, including the head, .05 to .12 long & from ½ as long again as wide to twice as long as wide. Color whitish. Specimens preserved. This must be the author of the gall. Is it a Cecidomyiade?

Found also in the swollen stems of these galls where they branch out  in cylindrical burrows in the wood opening outside through the bark a singular two-beaked pupa, not coarctate, but with the legs & antennae distinct. Abd. yellowish or reddish, rest blackish, length .12 to .09 inch, beak ⅙ or ⅐ as long as body  . From one of these proceeded under my eyes a Cecidomyide imago, not beaked, preserved with its pupa-skin. Depredating on these in same burrows several chalcidide pupae (Eurytomides) one came to imago & preserved. Pupae .06 to .09 inch long.

Burrowing into the subgalls many Lepidopterous larvae (6 or 7 at least) .15 - .10 inch long, pale green, with the head & top of 1st segment black. Also a pupa of the same .17 long. Came out ?

Also very many (100 & over) aphis — blackish with greenish abdomen. One winged preserved. Larvae some pale greenish, some black above with 2 longitudinal pale vittae above, much dilated before the middle. No intermediate forms. Preying on these noticed 2 Syrphus larvae & 1 lacewing larva.

60

(61) Noticed also among the Subgalls 2 specimens of an {anthonomus? (preserved), new to me?
Also 6 or 7 anthocoris pseudochinche Fitch, & 2 or 3 of its larvæ.
Prodigious exuberance of insect life!
The lepidopterous insect being much smaller must be different from that formerly bred by me from these galls. Also, July 23 one came out
July 16. Examined Slaughter-house oaks. No new galls formed. Out of about 16 or 18 galls left on a particular tree 3 or 4 (opened) ~~one half~~ contained lively larvæ, & on the whole full one half were not perforated. Will these produce aciculata in the fall & spring?
Crab-trees generally now have their leaves spotted with large orange-colored spots, observed 5 or 6 weeks ago in the old graveyard, & which now on their lower surface have either a fungus or a minute conical ~~or~~ gall growing from the spots. [A fungus — "cluster cup" — see article in Amer. Agric.]

— July 19. Noticed incipient galls pale pithy on R.R. willows in which I found cruciform larvæ (legless?) stony & less. Interior of galls,

(62) July 20. Today & yesterday I have 9♂ & 13♀ of Glyphe (ceraphron) near destructor (?) Say come out from an irregular mass of white silken cocoons found in the old grave-yard this summer (about end of June) on a stem of grass & enveloped in floss. The ♂ (recent) have abd.  & profile  , & the ♀ (recent) abd.  & profile (♀) or triangular not flat. It is only the ♂♂ that have a white spot on the base of the dorsum of abdomen. They are brighter green in front parts than ♀♀ generally. I am certain about their coming from the cocoons, because I moved the cocoons from one jar to another last night & specimens came out in both jars, yet I saw yesterday no holes in the cocoons. No braconidæ yet come out from the cocoons.

— [The color of above varies greatly, & I believe them = destructor Say = viridescens Walsh = ... Walsh MS. = ... cocoons ...]
July 23. Bred ♀ Gnophria vittata from a dirt cage filled with dirt this spring, in which had leaf-feeding caterpillars on oak & perhaps on birch & thorn. Harvest makes larva feed under stones on lichens. Was it among the dirt when put in?
Bred last ... yet, destructor spec. Singly from Cecidomyia destructor, & viridescens in swarms from lep. larvæ & spins a cottony envelope. Entomophagic species? Chlorygenus Dissocampa, which ... which copulated
— July 25 had cocoons (bra...
The larva has ... upon a mass of white floss, & sat each in a kind of hollow in it, ... morning to & ... that ...

† Hyl, destructor Shuck Singly from Cecido-
myia destructor, & viridescens in
Swarms from leg. Larva & Pupa a cot-
tony Envelop. Entomophagic Species?
Chrysopa Dasyscampa, which breeds

inside a pupa, a 3rd habit.
But in all these cases, does not
the chalcis fly that spins, but
the Microgaster, Pezomachus, &c
that does so.

Noticed also among the oak-galls 2 specimens of an {Anthonomus? | Ceutorhynchus?} (preserved), new to me? Also 6 or 7 Anthocoris pseudochinche Fitch, & 2 or 3 of its larvæ.

Prodigious exuberance of insect life!

The Lepidopterous insect, being much smaller must be different from that formerly bred by me from these galls.

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— July 23. [The color of above varies greatly, & I believe them = destructor Say = vindex Walsh = … Walsh MS. = pale cocoon Glyphe ✝]

Bred ♀ Gnophria vittata from a dirt cage filled with dirt this spring, in which had leaf-feeding caterpillars on oak & perhaps on birch & thorn. Harris makes larva feed under stones on lichens. Was it among the dirt when put in?

Bred last night ♂ ♀ of Sphingicampa distigma which copulated in the cage, & were stuck ½ an hour.

July 25. Had noticed 10 days ago a mass of cocoons (Braconidæ) in process of formation. The larvæ had already spun a mass of white floss, & sat each in a kind of hollow in it, moving to & fro ~~in~~ the fore

63 part of his body much as a Syrphus larva does groping for Aphides. Today secured the mass, containing cocoons as usual.

July 26. ♀ Sphingicampa distigma came out today which had the white spot near the costa invisible & the other very small & scarcely noticeable.

I was mistaken in thinking that in Cordulina the ant. △ is always full as robust as post. △, & always slender in Libellulina. In Macromia flavipennis ant △ is slender, & in Celithemis eponina △'s are nearly alike.

From Baird's N. A. Ornithology
Order — Grallatores
Suborder Grallæ
Tribe Limicolæ
family (always) — idæ
subfamily — — inæ
section — — eæ
then genus & species

Amphipneustic means a dipterous larva with two pairs of spiracles, one anterior the other posterior. When the number of spiracles is normal, that is one pair on the thorax & one on all (? last) abdominal segments, [see p. 64] then the larva is called peripneustic. Finally, when there is only one pair

(as in Ctenophora) at the end of the body, 64 the larva is metapneustic. The terms have been invented, I think, by Haliday.

N. B. — Fig. of Tabanus (Westw. II. p. 538) is represented with spiracles on all abd. segments but anal — MS. Osten Sacken May 13. 63

Larva of Bibio albipennis is amphipneustic, & has the supernumerary false segment between head & true 1st segm. found "in all Cecidomyidæ" Loew p. 181 O. S. ubi vide — segment 2 easily mistaken for 2 segments.

[see p. 63] Loew p. 181 "Number & position of the stigmata are normal, viz. one pair on the 1st thoracic segment, & 8 pairs on the 1st 8 abd. segments, so that the 9th or last segment bears none!"

Westwood says "larvæ of Bibio have 20 spiracles". B. albip. has a distinct labrum & mandibles & maxillæ & labium an cruciform mouth. Segments 1 & 2 have each a double row of thorns; ~~ea~~ 3 — 11 single row (terminal) 12 none. see p. 67

Aug 20. On R. R. bottom saw Anna Junia, ♂ light on a tall weed, when a swallow rushed on to it & carried it off under my very nose. Hence, birds pro tanto injurious.

Aug 21. Noticed a lot of bald-faced hornets swarming like a swarm of bees round the trunk of an oak, from a ~~part~~ of which [bored with holes by some borer?] they had apparently ~~stripped~~ or tapped by sap-sucker — the bark [No.] they did ~~not~~ enter the holes. ~~The~~ nest ~~on~~ the tree [a week or two afterward ~~saw~~ them there, as well as many Vespa & ~~few~~ Sphex cœruleus. Tree badly bored by sapsucker & probably exuding sweet sap.]

Poecus vernosus Burm. Miss Almeria L. Blish
May. 19. 1883 saw a "squad" of these insects covering
four square inches perhaps, marching up & down
the trunk of an apple-tree with the regularity
of well-drilled soldiers. (specimens sent me.)
They were so close together, that looking across
them their feelers [antennæ] resembled a thin
growth of hair. Below them, on the bark of
the tree, were many many of them shed skins.

What, from her description, must have
been Aphis avenæ occured on almost every head
of wheat in her vicinity, sticking close
between the kernels, but were not noticed
by her after the grain ripened. It was not
supposed that they had injured the wheat
by the farmers.
205, 609

americanum

Sep. 6 Opened 2 oak apples (c.g. spongifica
gathered in spring) & found a black pupa,
apparently accerlata, in each.

— of 9 mollusks,
cracked two, replaced] — cracked ones had meat in them —
Sep. 13 of the] ~~three~~ two were mere empty shells
(a fetid odor having been observable in the
jar since before Sep. 7) the other 4 were alive
(certain). Replaced 4 in jar. — Larva was
most vigorous at night. When water had got very
stale floated at surface; when changed, lived
below the surface

Sep. 15 watched tub. larva work his way into a
planorbis. After he had withdrawn found he
had eaten the contents of all but the tail end.
His pseudopods great help working his way in.
Sep 16 into another planorbis (morning). At noon
emptied the jar; one of the four was partly devoured
leaving us with the others the tail end which
apparently he cd. not reach & the foot; one
(the one he worked at thro morning) was ditto:
one was still alive — all that remained of the
original number.

Sep. 17 Rec'd. from Wm. Cutter (Beverly Ill.) Silvanus
Surinamensis: preys on wheat 1 year old (& very
plenty) that is considerably damaged. Larva
also plenty. [found plenty in dried peaches]

67th Day Copris g. accolatus (imago) out of an oak apple: near
day day out 6.

17th Sep. A larva of P. Turnus went to pupa & suspended itself, not spinning any loop.

Sep. 23 The remaining Plancobis & 3 more I had given the Tabanide larva all devoured. Shells empty. Gave him fresh water & a bit from Plancobis.

Sep 29 D. Parry's niece informed me of an insect (like a Pirates pinches she thought) being taken out of the ear of a friend, where it had staid 6 weeks. She thought Dr. Fountain had the insect preserved. [Could not get to see this insect.]

Sep 30. saw him into another Plancobis.

between Sep. 23 & 30 he had eaten 6 plancobis

The Utica *Observer* says that the hop crop is generally picked in Southern Oneida and Madison, some in poor condition, from blight and the plague of *lice*, a pest which made its first appearance on the vines of this locality the present year. Butfew

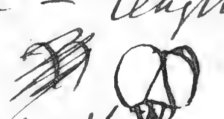
The Elephant is said to be rehomaged & to copulate by backing up together

Oct 25. Bred 4 Cynips q. acicularis from galls gathered very early in Spring; 3 of them shell thimmid, one shell very thin, as thin as any seen by me. Preserved it. It had also a distinct nipple at tip. [See Sep. 17th] Bred also 3 others from galls gathered early in Spring or summer one of which had a decided nipple.

Female of Cordulegaster bidentatus seen by Selys to oviposit "on herbage, in land a little marshy but almost deprived of water" in June & July "which proves that the larva can live almost without water"! But probably in other months these places were full of water (Mon. Gomph p 342 note)

— In Aeschna quadriguttata the basal area has crossveins ≠ all my other Aeschna & Anax.

— What can be the use of the oreillettes in Gomphina & Aeschnina? = tuft on breast of Turkey.

— Larva {= Ephestia zea Fitch (Now v clemens) infesting dried peaches — lepidopterous — 16-footed — legs normal — length .40 inch, breadth .07 inch. Head rufous,  — 1st segment  rufous-horny interrupted in the middle — rest all yellowish white, with long sparse hairs — spins a thread & hangs by it — Dec 17. 63

Also 2 ♀ specimens of a small parasitic Braconide

Larva of Silvanus surinamensis found abundantly with the imago in dried peaches has antennae (filiform) as long as the body is wide.

Honey in abundance is "the production of a small wasp called matajeh, which builds its nests on the branches of the trees in the shape of a large ball. The sting of this insect is so distressing that persons affected by it become feverish & benumbed. Therefore, in order to possess ourselves of its delicious honeycombs, we took the precaution to smoke out the wasps &c Paez, Wild scenes in S. A p. 345

In the Bay of Maracaibo garden "vegetables are raised on barbacoas, several feet from the ground, for the purpose of protecting the tender shoots from the depredations of red ants. Were this precaution neglected, the entire crop wd. disappear in a single night, the time usually chosen by these pernicious insects for their marauding excursions. ibid. p. 390.

~~yellow female of~~ ~~[illegible]~~. One of my Mem-
bers says that he has a specimen, reared
by him I believe, that has one pair of wings black,
& the other dark-yellow. It is a fresh
specimen, & in no wise rubbed. It is a
curious variation indeed. ~~With many~~
[illegible] return of ~~insects~~ [illegible]
[illegible]ly E. T. Cresson

[illegible] specimen of Troilus [illegible]
afterwards told that both right wings
are the same color,

We always use Camphor, & stick to it as the best preventative, generally speaking.

I am glad that we have given satisfaction in printing your paper, & trust that we may continue to do so hereafter. "We study to please," altho a common phrase, stuck on almost every theatre curtain, yet

Female of Cordulegaster bidentatus seen by Selys to oviposit "on herbage, in land a little marshy but almost deprived of water" in June & July "which proves that the Larva can live almost without water". But probably in other months these places were full of water (Mon. Gomph p 342 note)

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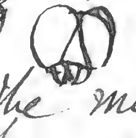
— Larva {= Ephestia zeae Fitch (Bow & Clemens) infesting dried peaches — lepidopterous — 16-footed — legs normal — length .40 inch, breadth .07 inch. Head rufous,  — 1st segment  rufous-horny interrupted in the middle — rest all yellowish white, with long sparse hairs — spins a thread & hangs by it — Dec 17. '63

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of two dead & dried. Also several dead pupæ, & some dead callimome pupæ, ovipositor curved over back. Also one spotted-winged chalcide (body yellow, & black) in the image.

Jan 20 1864 Almost all my galls of Cynips gemmæ (15 or 16) when opened contained 8 or 9 chalcide larvæ, & one found today on the tree contained the same. A single one in jar contained a dead & very mouldy (?) of C. g. gemmæ, as seen by the sculpture of thorax on washing off the mould. — On opening 30 or 40 galls of acicularis, found one with precisely similar chalcide larvæ, clinging together, like the others, so as to form a round ball. In these 30 or 40 galls found nine acicularis either dead or perfectly formed but not dried,

[viminalis] = S. ovum

viminalis Walsh

— In a vernonica fasciculata gall, gathered last summer (two confluent galls) one (hollow) contained a whitish larva ½ inch long with a large whitish lepidopteroid head & large brown hooks or mandibles, 6 legs, no prolegs, & a large pseudopod on top of jt. 6–11. Probably I may have mistaken this for lepid. larva. It has not the  head. Tenthredinid?

[failed]

concealed mostly except the sutures 3 inferior ... whitish pale orange ... markings that look like large intestines convoluted, & are probably masses of eggs (many specimens)

Larva in Feb. 26. 1864 batatas salicis [rodagra] galls (recent) is deep orange color - almost sanguineous — Cutting into old last years bored galls, found several pale greenish white larvæ (Inquilines?

In one of the small salicis [rodagra] batatas galls found a Tenthred? larva, pale greenish white. Guests.

Found on the bluffs a single spongifica gall on a small black oak (dead) 2 inches at butt, ½ mile beyond lib. 4 maculata corner.

Galls (terminal) on fuzzy willow one contained an orange-color cynip.

larva in cocoon just like rhobilana cocoon.

——— rhodoides gall

batatas

[1] Authonomus scutellatus Schönh. bred from willow-twig gall ——— (summer of?) 1863.

5

March 6. Cut into many ——— willow twig galls near Chippewanock. Some, both bored & encircled. Contained the greenish tinted larva, one of wh had spun its cocoon. Some were full of the cork-spring, From some the Tenthred had gone out & eaten. One contained a small whitish larva — parasite? or Authonomus scutellatus? See above.

(leaving its traps)

graphalicoides

March 16. Found a "cemeniator" gall (preserved) on a last year's (dead) shoot of blackberry, 1¼ inch long & 1 inch across egg-shaped & woolly. Scale dirty brown. Wool about ¾ inch long, then cells 10 inch long united apparently in a roundish mass by cottony matter & pretty close together. Cells empty.

Found egg-shaped hollow galls ¾ by ½ inch on tips of shoots of red osier dogwood. aphidous? Rind about as thick as stout spongilla galls.

Found many "grapecordes" like galls on tips of twigs of young stunted plums [cells.] Cells all empty.

Found on g. prunus gall one undoubted cell on the circumference beside central cell

Found a small black chalcidide inside cocoon of c.s. [amaranthus.] gnaphalecordes

cecidomyia

[batatas

{batatas

order

From Rev. Green's Book
Tin-box — oval 2⅝ × 2 inches & about 4 inches high

Green uses "treacle & a little rum" for keeping a saturated solution of oxalic acid & sheet-tin for killing

79 Moths cease flying from a little after 9 to a little before 11 P.M. Moonlight & windy & cold nights bad. A warm misty rain good.

— 5 more liable by far to grease than ♀

— Soak ~~& boil~~ small greasy insects in benzole, entire ~~[illegible]~~

[To kill mites — invert the drawer over a cloth moistened with naptha for an hour or more — (Haliday)

"Take off larger insects abdomen & expose to heat of fire at 6 inches distance. If grease has run into thorax &c, ~~the~~ those parts must be soaked in benzole. If ~~the~~ abd. very full of grease, the fire brings it to surface. Simple soaking for a few days will remove the exterior grease. Slit open abd. & soak for 24 hours, then boil as rapidly as possible in about 1½ oz. benzole in a water bath & a covered vessel (adding a little occasionally). Remove & wash with fresh benzole & dry on blotting paper. If done enough, abd. again exposed to fire will not try out. This is the test of time" Dr. Wallace (Label abd.)

— April 3. Cut into my spongifica galls. Out of 137 gathered June & July, came 28 aciculata (all dead) 13 larvae do & 2 pupa ditto; also 7 dead & dry chalcid. (2 Decatoma & rest Callimome) & 2 ♀ Callimome pupa dead & decayed.

80

Out of 36 galls gathered Sep. 17 came 1 aciculata (dead) 2 larvae do & 1 pupa do; also 2 Callimome (dead & decayed), one mass of chalcid. larvae (ar[illegible]) & 5 whitish hairy chalcid? or ichneum? Opened Aug 4 & found 1 callimome (imago) alive & 2 or 3 ditto pupa. Possibly the mal. One of the 5 came from the June & July lot of galls.

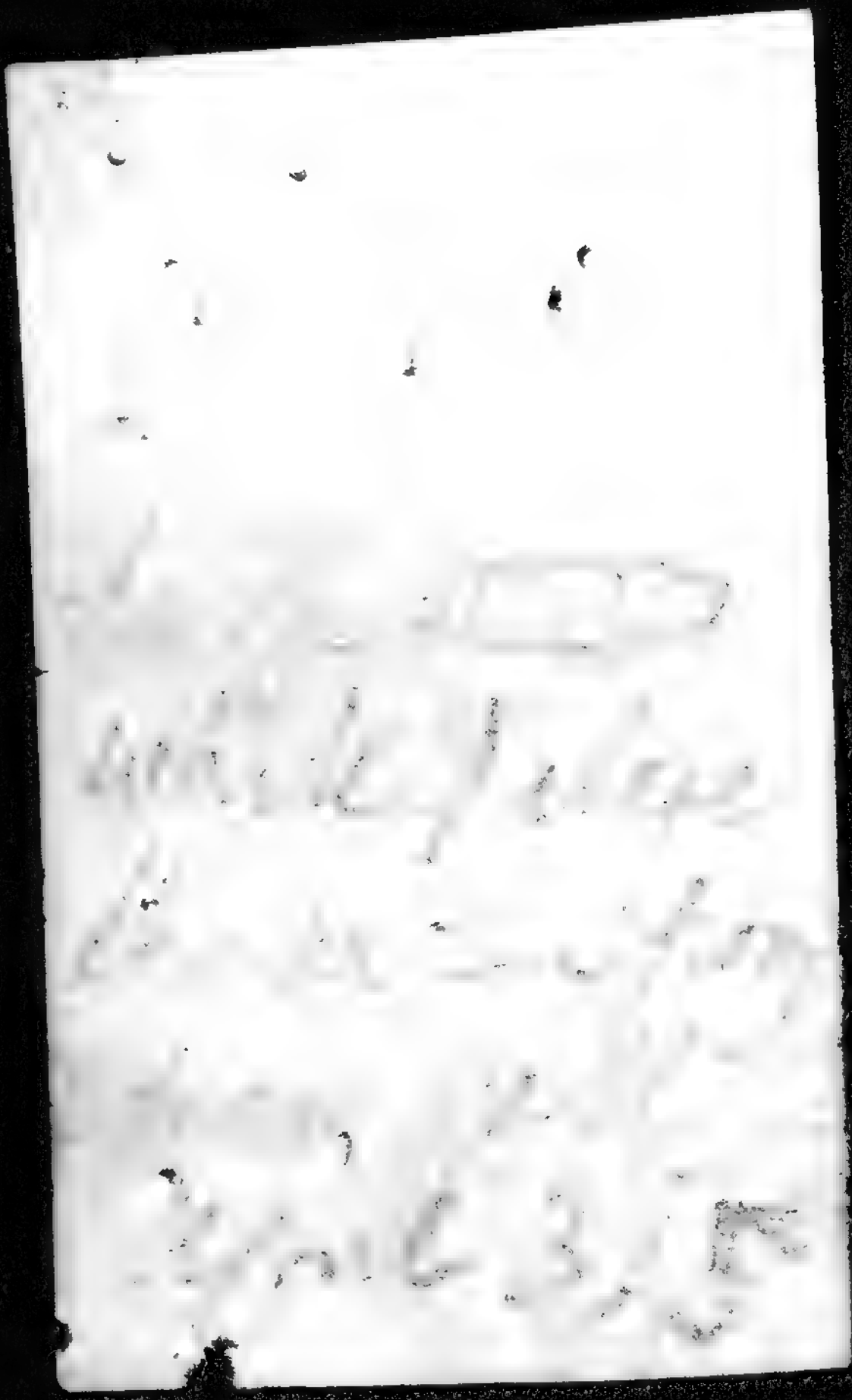
From "pseudo-{tinctoriae / centricola}" galls, some of which were mixed with the spongifica galls & may ~~therefore~~ possibly have grown on Black oak came Sep. 10 ♀ chalcid. alive & kicking {n. genus? ant. 26-jointed}

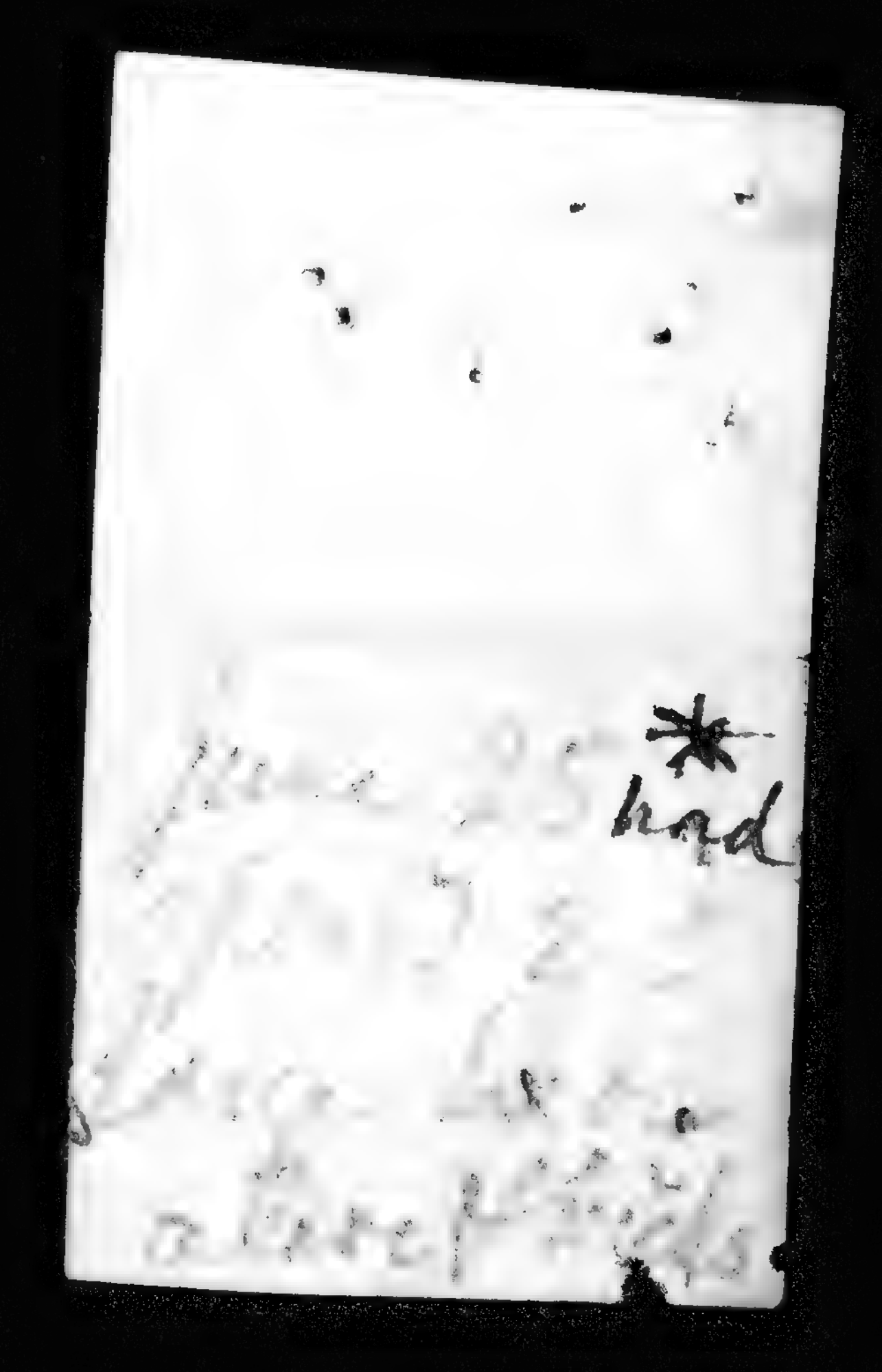
Bloodred

3 times as long as wide .03 inch long & blunt pointed at each end) in the bottle where placed. ~~What becomes of these eggs in nature? Strobil. galls not yet formed~~

April 8. 14 Pseudo-tinctoriae gall gathered on the ground under the Red Oak at Lib. 4 maculata corner. Two (opened) contained each one [drawing] whitish larva. April 10 gathered many more in the same place. The cell is spherical & the filaments adhere to it strongly. Noticed a black oak on the bluff with 12-20 spong. galls on it (4 or 5 gathered all of coccineae kind) & 10 yards from it a red oak with inanis galls.

A red oak (?) from which I gathered inanis galls had 9 pilulae galls on its leaves.





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A redoak (?) from which I gathered inanis galls had Q. pilulae galls on its leaves.

81) "the larva of Cal. Terminalis [illegible] sometimes goes
under ground & sometimes transforms within the
withered leaves deformed by it" Loew Dipt. p. 184 note
[Hugh Miller] "fell short of that highest faith
which knows that all truths must harmonize; &
which is therefore content trustfully to follow the
evidence wherever it leads." Herbert
Spencer's Illustrations of Universal Progress.

batatas

batatas

S. aenigma

batatas

rhodordes

batatas

(cocoon short)

cocoon short

graphalicordes

graphalicordes

cocoon short

cocoon long

4

cornutus

batatas

pulverentus

batatas

batatas

fulvoventris

batatas

batatas

batatas

batatas

batatas

T.O.

gnaphalioides

gnaphalodes

humilis

batatas

batatas

s. batatas

graphalioides

[bred no cynips q. podagrae this year : ∴ a few days too late.]
{batatas]

batatas}
[

S. batatas
[ ]

batatas
[ ]

93)

[illegible — faded/erased text]

galls? [Br...]

Bluffs today where a red oak with g. cinereus galls grew within 50 or 60 ft. of a Black oak with g. spongifica galls. Judged the species by the height that the rough bark ascended the stem. Each was 4 or 5 inches in diameter at butt. [... 26.]

Some weeks ago noticed a single spongifica gall on the clump of trees near Slaughter-house, previously supposed to be destitute of that gall.

94

The long cocoons f under scales of s. Strobiloides galls gathered today were very many of them flattened & not plump (just as those a long time in my jars).

Found a very large rough subspherical gall on a red oak; 2½ — 3 inches in diameter. Cells old & exposed mostly: dug one whitish cynipide pupa in the field out of it. Gall q. punctata, Bassett?

[Turned the "R.R. cultod" Strobiloides galls along with the others in the big jar]

"The impression that the living species, connected by such a close link of relationship to some Amber diptera, are not new additions to the number of old species, but are so to say, the transformed old species, is in my opinion irresistable to any unprejudiced observer" Loew 1861 on Amber Diptera Silliman's Journal XXXVII. p. 315

"Analogous species (plastic [or structural] & [...ational] distinctive characters")

"There is not a single instance on record which would justify the conclusion that under the now prevailing natural conditions, any species could be modified in that way, either through climatic influences, or in consequence of a compulsory change of food or through the contact with some other species" ibid. p. 324

batatas

batatas

batatas?

graphalcorde,

fulvi-

batatae

batatas F ?

batatas]

batatas

[batatas]

quaphaleorder

salsa cordata

humch

2+205

gnaphalioides

batatas

[failed?]

batatas

batatas

batatas

batatas

gnaphalioides

batatas

[failed?]
batatas

batatas

batatas

batatas

S. pomum

S. cordata

June 12. The first c. g. pseudothecia opened contained a large white larva, apparently alive, & cypripidous (?).

Today opened about 8 g. spongifica galls, which were on the average not full grown yet. The contained a mass of 12 or 16 chalcidide larvæ — B; 1 a half grown cynipide larva; the rest nearly or quite full grown ditto. Strong 21 galls on the S.W. side of a large black oak (circ. 2 ft thro at butt) S.W. from the Slaughter house.

Found Asthenonura praecida on a plum on a wild plum tree, almost all the fruit of which had 1–5 round perforations & a few were gnawed out or excised. A stain of gum exuded from almost all the round holes. No excisions.

— A large ash gray caterpillar about 2¼ inch long, anal proleg very long & slender, two segments behind thorax much elongated with which it loops as it progresses, though it has 16-footed. Under 3 or 4 of the middle segments a large squarish black patch. Food-plant —— ? Spun up between leaves June 13. In glass-bottomed cage.

[Dog a dead sculptor, out of one afterward]

S. Anselma

[ ]

S. Anselma

[ ]

S. pomum

batatas

Dimorphous ♂♂ of Decanota modesta, (some long, some short antenna. O.S. Diptera, p. 250)

5 ♂♂ & 4 ♀♀ Tetyra fenestrata Say (Scutellerida) in a caterpillar's (gregarious) nest on some plant. Myriad of little caterpillars — then. Fed on them?

— Found larva (Cecid?) in S. strobil. gall. Young?

= July 26. Noticed swarms of Chinch bug in the hay in the air close to John Case's farm. Both noticed the same in town. Flew freely.

— Saw two or three Reduvius capitatorius on wild umbelliferous on Bluff — Cotton farm.

— The fact of Dytiscida dropping down upon glass frames, mistaking them for water as Westw. well suggests, is proof that they have perception of color.

July 27. Found many orange-color'd. larvæ under scales of S. strobil. gall. Larger ~~21/2~~ about .07 inch long when extended 3 times as long as wide. Bean-bone clove-shaped.

[1♂ 1♀ Dec. 1.153 Eggs; larva
Taken under bark 1885 CO

[Hy: Hemerobius fidelissimus.]

— The ~~gall~~ pomum gall on S. cordata must be made by Aethomyia. Found [p. 110] many larvæ & 2 pupæ in them but no "feathered" larvæ. The Nematus must be

an inquiline. Found on one gall along with
the Anthonomus pupa a singular blue black polished
pupa, hard & horny, abd. bordered like scutel
in Perclampus.  Found 3 others by themselves
in other galls. placed in vial. Galls often rosy
like an apple.
Leaf Galls ξ desmodiorder on S. humilis different shape.
— July 30. Noticed young coccus hatched out from
the body of the hickory coccus gathered 5 or 6 days
ago, & crawling about on the surface. Also long
slender larvae (—) protruding & bowing their
bodies about like a Syrphus larva, the tail re-
maining in the body of the "scale."

---

batatas
[ ]

gnaphaloides

= July 30. ξ S. pomum Found today numerous 20-footed Teutho-
dinous larvae (Nematus?) on leaf-galls of S. cordata.
Anthonomus scutellatus must be an inquiline.

+ [Found on Chippewanock a bush partly S. longifolia
& partly S. cordata. The former had many Graphiocorde,
galls, the latter many Strobiloides galls, & never
vice versa. The two willows readily distinguishable by foliage.
July 30 An inquiline & Cecidomyia see O.S. apud Loew
pp. 180 & 184 = 185 & 186.] Bred today ♂♂ & cec. pulviventris
from near Strobiloides galls. ∴ species is double-brooded.
"Merodesia fuzz" = salicis origina

S. vernalis
S. cordata twig-gall

An oval or roundish swelling .3—.5 inch long on the side of small twigs, green wherever smooth but mostly covered with longitudinal rough cracks & scales, like the skin of a melon, which are pale brown opaque. Its substance fleshy, like an apple, but with transverse interwoven fibres. When ripe filled with brown spongy matter, with close-set interwoven fibres. On cutting down to the twig at any time, a loose internal shell about .2 inch long becomes plainly visible.

S. pomum

— Found another "s. sessilis" gall on S. cordata, but the beak of the gall recurved  like the tongue case of Sphinx 5-maculata. Larva 06 inch long, bright opaque orange, with a ventral & dorsal polished semi-translucent broad orange vitta.

?? On the insects, Coleopterous, Lepidopterous & Dipterous, inhabiting the galls of certain species of Willow; by B. D. Walsh m. A."

Chlamys pennsylvanica differs from allied species (breolata &c) by the rough & distinctly punctured interstices of elytra, while the striæ are only faintly punctured

day 8.9. Found at Coal Valley young cottonwoods with just such pseudogalls as those of Saperda inornata say, containing legless larvæ 1/2 — 3/4 inch long. See Analyt. Table of Chlamys p. 27

— Took 3 or 4 Nesocrades Brujo at Coal Valley & saw many more, all smaller than juveniles & apparently distinct.

— Took 5 sp. of a new Cordulia & saw haunting the Creek at Coal Valley either a Cordulegaster or Gomphus (Spinosus?) very wild & could not catch it.

— Argynnis Bellona pretty abundant here. Took 3 or 4 for the first time this year at Rock Island.

— Found Saltica alternata? Shy & pale varieties flying abundantly on a patch of Salix humilis.

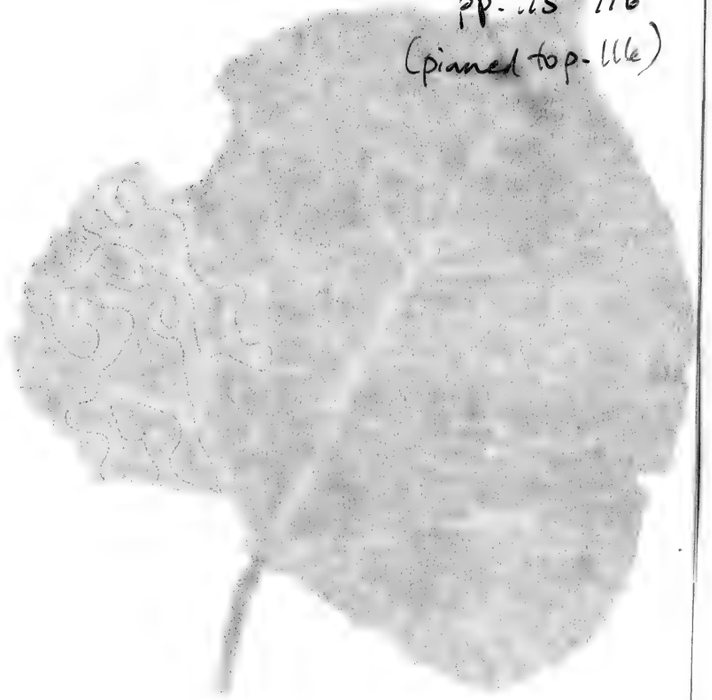
Found leaves of a Salix (nigra from memory) covered all over with little irregular warts, similar to the "curl" on peach leaves as described by Harris. (Report Pomological Society p. 4) Perhaps my S. cordata a similar origin. No larvæ in the warts, but noticed a larva of Anthocoris pseudochinche crawling on the 2 or 3 leaves brought home. Have bred & imago too occurs both on S. rostrata (very abundantly) on S. rhodoides & S. strob. more rarely

Aug 12. Took today at Chippianock 13 catocala on trunks of trees. Yesterday took 5 & could have taken more. Used Chloroform today 1st time.

Aug 13. In bottle of salicis pomum found 4 or 5 Anthonomus scutellatus Come out.

Found (g. prunus) several dozen subspherical galls on the ground under a red? oak (acorn picked up). Diameter 1.15 — .73 inch, smooth surface, occasionally with a few subobsolete knobs or teeth. Color ~~purple or dark blood red~~ crimson with numerous round or oval spots occupying ½ surface about .05 — .10 inch of a pale yellowish brown, the spots often preponderating so as to show only a net-work of crimson. Inside fleshy, with fibres indistinctly radiating from centre, ¼ of diameter pink, gradually shading into yellowish. Central cell, with a larva in it .2 inch long when straightened, whitish, head colored with a spot above & slightly below.

Pinned b/w pp. 115–116 (pinned to p. 116)



Aug. 17 Found on S. aenigma a coleopterous? larva ¼ inch long, head large, 6 legs & a very long proleg & two anal thorns (profile). Color gray with dorsal pale & ~~blackish~~ fuscous vitta. Placed in bottle (spinning).

From beginning to middle of August took over ~~30 or~~ 35 Catocala on trunks of trees in Chippianock Cemetery. Peculiarly thick on hill opposite the slough South of the East gate of Wilder Brazier Lane. Took 13 one afternoon & 13 the next.

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Aug 17 Found on S. aceriena a Coleopterous? larva ½ inch long, head large, 6 legs & a very long proleg & two anal thorns (profile); Color gray with dorsal proleg & tubercles white. Placed in bottle (specimen)

— From beginning to middle of August took over ~~30 or~~ 35 Catocala on trunks of trees in Chippianock Cemetery. Peculiarly thick on hill opposite the slough South of the East gate of Widow Bagley's house. Took 13 one afternoon & 13 the next.

From s. aenigma galls recently gathered (5 or 6 days ago) came out about 12 cecidomyious larvae. .05 inch long & rather elongate & head more elongate & pointed than usual. Breastbone? ? so far as distinguishable. May be suspicious. Distinct very from larva of fulviventris. Found one inside the gall.

" day. 20 Found on salix longifolia, projecting from a gall before, a spig with 2 or 3 the leaves of it so "curled" as to strongly resemble at 1st sight s. aenigma. Dried them.

" the

{ " vacciata }

Noticed a mass of Aphids, on a twig of salix cordata enclosed in a gall-like envelope by ants, apparently formed of cow-dung like fibre, not of earth certainly. Inside were aphids & numerous ants.

{ fulviventris ? ?
albofasciata

a lateral & also oblique subobs. yellowish streaks; 2 rows of lat. purple spots, lower one on spiracles, a lateral purple stripe on head

2

1 1/2 — 2 in long, pretty robust. see p. 131

2

or brownish

desippus (1 came out)

[lost]

Aug 26. On cabbages [Agrees with characters of Euclidia Wulcr. II p 395]

1) a slender pale green larva, 1¼ inch long with numerous more or less dashed whitish longitudinal lines often a broader lateral one: 12 legs, 2 anal, 0+0, 2+2 +0 +0 +0 +0 + legs. Taper from middle of body to head. Numerous, very restless. 8 or 10 specimens. Spun a loose cocoon under the leaves of the cabbage.

2) a nymphalide, freckled, suspended by tail

3) an arctian {rolls up} with longish hairs 1 spec about 1¼ long, hairs black, body yellow a broad fuscous stripe each side of dorsum leaving only a narrow central yellow line, two transverse lateral red warts on each side of each segment before the hairs which some small black freckles. Head black with a narrow white vitta & mouth white. 16 footed. about 3 spec. 1 Sep. 2 hairs hid Sept. coal-black & very dense very robust & eats heart of cabbage

4) a Noctuide, 1¼ inch long, broad velvety black dorsal stripe, then a narrow yellow vitta, then a similar black vitta dotted & spotted with 3 or 4 series of confluent yellow dots, then a yellow line, then black with yellow & white freckles & dots & head black with white fork. Variable when large & small. 3 or 4 specs — very robust, when large, less so when small.

5) a dull-green 16 footed noctuide? moderately robust 1 inch long. head green. A dark abbreviated on each side of dorsum of each segment & a similar one above spiracle or place of spiracle beneath which a brownish white very pale brown long. stripe whole length of body. another without the dark streaks, or subobsolete. Variety? Some quite small, & differing. Maybe P. Protodice.

6. Common white Arctia Virginica.

Aug 26. Salicis verruca gall. On S. humilis. An irregularly spherical smooth greenish-yellow gall, ½ projecting from each side of leaf, on midrib or on some of principal veins. Upper side flattish or with a minute point or nipple, lower side branching out into a ragged wart-like excrescence. Substance rather woody with central cell. 1–12 on a leaf. Often several confluent, but internal cells separated by a thin partition. Larva orange, ⅛ inch long, head-bone sub-round, small, indistinct.

— Larva of c.s. ~~dec~~ gnaphalicoides now .06–.07 inch long, yellowish with dominant white gut-like markings — broadbone.

Aug 28. { bicolor Harris? (just moulted) Dryocampa larva – oak – 1.20 inch long.

Head greenish yellow. Body pale greenish brown, very thickly covered or frosted over with small whitish granulations. Each side an obscurely-defined sanguineous stripe above the spiracles, which are black surrounded by yellowish, & another beneath them ~~interrupted at the sutures~~. Six transversely placed black humps ~~dots~~ 1st. segment behind head; & beneath a black spine (lateral) 2nd jt with two long slender recurved smooth black horns directed forward .2 inch long [hind point?] with a few white granules on their lower half & 2 lateral black thorns ~~the jt. except 12~~ 3–5 & & 10 & with & 6 short black thorns .03–.05 inch long two between the sanguineous stripe, & 1 beneath each stripe all transversely & medially arranged & sometimes with a whitish basal granule (or tubercle?). Anal jt. greenish yellow. Joints 6–9 with only 1 lateral thorn instead of two. Legs greenish yellow, prolegs with a black patch outside & venter pale greenish brown. [2 thorned as 6–9 but in addition a transverse dorsal pair behind. Different from Stigma and a yellowish anal pair close together & directed backwards, greenish tips as described by Fitch & from Abbott by Harris;]

May be pellucida as described by Harris & Fitch. Shifted to case No 3. no other Dryocampas.

Lepidg. larva [came out 6 07] burrowing in singular smooth brown black galls powdered with pale brown, subsphereical & irregular on ~~sweet~~ scorched sycamore maples & elms on R.R. bank. Internal structure of these galls

like a hornet's nest. Length .8–.9 inch. Very pale greenish fuscous. Head & 1st. jt. black shining, latter with pale longt. dorsal line. Spiracles black. Each jt. with a dark dot above & below the spiracle, & 2 dorsal ones (6 in all) all trans-

versely arranged, & another pair rather wider apart behind the two dorsal ones ⁚ ⁚ . Venter on each side also with two transverse dots above the legs or prolegs, & where none with 6. Anal jt. with large black shining transversely oval dorsal spot & penult. with a smaller one between the 2 hinder dots. From each dot proceeds a long pale fuscous hair. Spins a thread, wriggles much, & walks rapidly backwards more than forwards. Spins a loose cocoon.

Found most g. pilula galls solid, no cell or larva. In one found cells & a short squat larva with large horny head probably rhynchophorous. ½ as long again as broad & about .05 inch long. Others much smaller. Whitish, stomach above largely blackish, in another specimen yellow, beneath not at all. [In another cell of same gall found 2 yellowish larvæ probably cecidomyious. [Tips of mandible black, mandibles moved very distinctly]

Noticed galls of a very similar structure but rougher & more wart-like on upper surface mostly or almost entirely of betula (black birch) leaves, not much bigger than head of large pin & similarly often confluent. Also similar but still more dense, confluent & rougher & more ragged galls on upper surface of Cephalanthus leaves. Whole bushes covered with them. Single galls about = head large pin. Similar small pin-head-sized ragged galls mostly on upper surface of leaf of Salix nigra. s. g semen p. 126. In none of these 3 last could I find larvæ. Small. Some of those on willow were burst open at top like g. pilula. — It does not follow because these galls are so small, that therefore their cecidomyia &c. be abnormally small. C. s. rhodoides & C. s. gnaphalioides = size; yet galls very unequal.

Salicis ramuli. On S. longifolia. Tree 6 inches thro at butt, (& on some small ones) opposite Bass Creek. A mere swelling of a twig from .10 to 1/4 inch in diameter  about an inch long & so & pitty inside. Inside a 20-footed pale greenish white Tenthredinedous larva about .15 inch long, mouth brownish? with dark eyes as usual.

In one gall on a twig 1/4 inch in diameter noticed a streak brown outside 1 & 2 1/2 inches long by 1/8 wide, perforated with pin-holes in irregular quincunx ·········. Each hole pointed a little upwards from the inside, & in each was a (Cicada?) egg, cylindrical perfectly, rounded at each end, shining greenish-subhyaline, .13 inch long & 6-7 times as long as wide. The ~~outer tip~~ end that lay outwards was whitest opaque for ~~the~~ 1/7-8 of the length of the egg. Not straight but curved in a circular arc of about 25°. Preserved 4, & placed 1/2 the twig in a quinine bottle.

Several S. ramuli were bored & in one I found Anthon. scutellatus 7th spec.n preserved. The others were empty.

= Aug. 29. From S. pomum another Anth. scutellatus came out.

Salicis semen. Salix nigra. Subspherical hollow greenish yellow galls .04 inch — .02 in diameter, 2 or more often confluent, mostly on upper side of leaf, with a corresponding circular depression on the lower in the middle of which is a flattish ~~rounded~~ hemisphere. Often but not always with a pointed nipple above. Today many are burst open at top. In one cell of a double one found a minute large-headed larva with a back ⊙ (see p. 124); rhynchophorous? very. Many cells, when opened, contained nothing, yet not bored. Have noticed a few such galls (2 leaves, dried) on S. longifolia, & I think many on R.R. S. discolor [cordata] leaves.

= Aug. 30. S. viminalis {Tenthred. larva in twig-gall of S. cordata now about .10 .12 inch long. Uses its legs well ⇒ Imbedded in the slit at base of gall. Pale yellowish with pale fuscous head. ~~Most~~ many galls apparently not yet hatched.

On placing side by side six of these larvae with 6 from twig-gall of S. humilis, the latter are all decidedly pale greenish, not yellowish, whence I infer them a distinct species. These also use their legs. Eyes in all distinct, large, blackish. No other difference apparent. ~~Tips~~ of ~~mouth~~ mandibles blackish.

Today bred a Litargus (Mycetoph.) from S. aenigma. Yesterday an Apion from S. strobili.

A Dryocampa larva found today agrees with Fitch's description of stigma, & has a white annulus near the tip of its prickles & a white fork tipped with black from the side of the two top ones & the lowest lateral (6 in a row) long horns not recurved. Black spots on 1st segment mixed with white granules. Penultimate 2. 1 long medial prickle + several others

Aug 31.

Sep. 1st Normal, except hind pencils white & front ones stained black
See p. 130 at head beyond.

& similar ones on hickory.

Cec. 3-fasciata ♀ (recent) Eyes coal-black. Body pale testaceous, a spot above the origin of each wing, tip of scutel, spot external on cox[illegible] a terminal dorsal spot on abd. pt 1–5 a lateral medial spot on abd. pt 1–6 scarcely interrupted at sutures pale fuscous. Femora pale fuscous above & below with a white basal annulus, tib. white with a pale fuscous annulus at base & tip. 1st tarsal jt. base & tip of 2nd & 3rd & 4th & whole of 5th pale fuscous; the 2nd white. Wings with an irregular subbasal pale f. fascia enclosing to tip 1/3 of wing a large ◇ hyaline spot on anal edge, another a little over 2/3 of way to interior tip enclosing a large hyaline spot on costa, another on the disk & another on the interior edge, & another narrower terminal one subinterrupted in the middle.

Cec. flaticeps (♀?) recent. All yellowish, but eyes coal black. Tips of tarsi & somewhat nearly whole of ant. tarsi tinged with fuscous.

2 ♀ came out Sep. 1: cut one gall, & central cell stuffed full of castings, leading to the external hole. No other cell to be found.

in No. 3

another (captured) either lost or placed in No. 4

Placed in Cage No. 4 (sycamore leaves) 4 larvæ of H. Antiphola, viz. 1 whitish dusky nearly full grown from oak, 1 yellowish brown nearly full grown from elm (or possibly from oak) & 2 whitish half grown from oak. Not in very good order, being mussed up & wet.

(The whitish Antiphola larva in No. 1, See p. 127) Next morning two large larvæ ~~alive~~ alive & healthy but off leaves. One & perhaps both small ones dead, where first placed.

[Sep. 2 ?]

The crookedness of the horns is reduction: some stigma have them similarly bowed. But in both my bicolor the body is very much more covered with white granules, so as to appear hoary, & the prickles are not forked as in stigma. The arrangement & number of prickles same in both sp. In senatoria the ~~(besides the lateral)~~ normal row of thorns on anal segment = ~~4 not 2~~ 2 (spatulous) & the ~~terminal row = 4 not 2~~, the anterior edge of upper surface is thorned laterally with unequal thorns ~2-3-4-5 long

Placed in cage 4, 3 Antiphola larvae, 2 dirty whitish fuscous, 3/4 grown, & 1 ~~##~~ half grown bright yellow, pencils normal.

Sept. 4 Shifted Cage No. 3 (coak-leaves) (p. 128 S) Larvae scarcely grown, but had all 3 become a dirty white like Antiphola: heads still reform & pencils (what remained of them) orange. The large one vigorous, the two small ones very sick. The two Dryoc. bicolor all right, the 1st one scarcely grown; but I had carelessly put in their cage the D. stigma with left hind broken. Shifted him to No 1.

Shifted Cage No 4 (sycamore) From this cage (leaky other larvae, nolodontids? had been daily escaping) ought to have contained 5 or 6 Antiphola larvae. Found only

1st dirty white, half grown, seedy with one black pencil only in front & one behind. Head black

2nd dirty white, half-grown. Had just moulted when left. Perfect pencils, normal. Brownish along the back

3rd dirty white, dead, half-grown.

added this day the Antiphola larva from No. 1 = p. 127 S. Today it was gamboge-yellowish, pencils normal, except that 2 front black pencils & 2 hind one, were only tinged with dusky, instead of black. The other two black as usual. [∴ 3 antiphola larvae now in No. 4] Mended the leaks in cage. Next morning the larva that I had shifted on a piece of oak-leaf 1½ inch square, had remained on it & eaten it pretty well up. Took it away from him. The other two larvae had strayed off the sycamore.

Sept 5. Put 3 3/4 grown Antiphola larvae off oak in Cage No. 4 (sycamore). Dirty white, creak along back a little brownish. Heads all black. Pencils black. Two in feral-rate order & one lost some pencils & some hair. All lively.

Placed in Cage No. 5 (bass-leaves) 3 Antiphola larvae off oak, ½ grown, all very lively. Two tolerably perfect, 1 considerably rubbed. The 2 fresh white, or nearly so, with black pencils & ~~red~~ infuscous head, the last dusky whitish or gray, black pencils & blackish head.

Found in C.g. Operifica galls 4 larvae (lepidopt.) 2—3 inch long, legs normal. Color opaque fuscous, head infuscous fuscescent segments with four anterior transversely arranged black dots (bearing a hair?) & two posterior ones (ditto?) dors. 1·1 : 1·1 pl. 1·1

Sep. 6. In Cage No. 5 (bass) the rubbed Antiphola was off the leaves. Other two not visible.

In Cage No 4 (sycamore) 3 good & perfect Antiphola were visible (last night's 3?) one off the leaves (two on. No gnawings when the 2 on the leaves were sitting. ~~Antiphola~~ Perfectata

In Cage No 3 (oak) 1 ~~Antiphola~~, was dead & shrivelled up. Other 2 not visible.

In Cage No. 2 (willow) a larva (that like Acronycta oblinita?) had spun a cocoon on the roof of the cage, cutting away a large piece of the millinet to make it. Mended with paper.

Placed in Cage No. 1 (oak) 4 Antiphola larvae, off bass. 1 very small (very young & lively); 2½ grown & 1 3/4 grown all in good order. All black heads, including the small one.

Placed in No 5 (bass) 3 more Antiphola larvae 1 nearly ¾ grown & 1½ grown, both in good order, & 1½ grown lively but nearly naked. All black heads. [N.B. Noticed many young Antiphola, ½ grown & under, with infuscous heads.]

Sep 9. In S. pomum jar noticed 3 migratory larvae .35—.40 inch long, pale ochreous with pale dusky markings, with legs active, crawling about. Eyes dusky as usual.

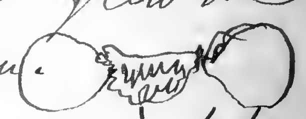
(A) Spun up in Cage No. 1 (oak) a large 2 inch long hairy Arctian?, white, with spreading long sparse white hairs, proceeding from warts, head whitish with a transverse black fascia above & below. ~~From memory.~~ Also a 2nd spec. No. Hair of body ½ as long as body. [Another sp. got today.]

Found

One larva (the first obtained) of Dryocampa bicolor? dead; placed in alcohol in hexagonal vial. In Sigma larva the white granules on each segment are much more sparse & there is always one transverse row of them ~~of~~ on each segment. In bicolor they are irregularly arranged, with no vestiges of any transverse row.

When less than 1/2 grown head is rufous & only pencils on 3rd segm. black; on 2nd only slightly tinged. [margin: dorse behind.]

= Sep. 14 Yesterday brought home c. q. spongifica galls from near Slaughter-house, 21 + 21 = 42. Only two, so far as visible, bored.

Found under black oaks 85 q. prunus galls. None bored. Specimens .6 inch in diameter found on tree grew one on each side from cup of acorn.  Another grew one only in the same way, but was as yet small & .4 each in diameter green, showing but little of the reddish markings externally & internally all yellowish green. A dried & bored specimen grew almost from the stem of the acorn. On cutting into it it contained a large larva. Substance of the gall when dried very hard, but brown & spongy-looking to the eye.

Mrs. Barbour (from No 3) brought me a Doryphora 10-lineata caught on her door-step.

Larva ~~of~~ Trichetra opercularis [Fitch. II. § 67.]

Larva found on Sycamore, but though placed on sycamore leaves on a piece of oak-leaf about 1½ inch square has eaten good part of the latter. Length 1.10 inch, breadth .60 inch, midsection ⌓ with a slight dorsal ridge of hair (measurements include hair.) Body covered with dirty white close-set hair sloping backward on joints 3–12, upright on 2, & sloping forward on 1. Head entirely retractile within 1st segm. Segments plain thro the hair. Hair below line of spiracles (which are ○ black annuli) dirty gray. Abdomen naked & as well as anus, skin round spiracles, & legs & prolegs dull flesh-colored. Hair about .20 – .25 inch long. Head flesh-color varied with pale dusky. When disturbed, rolls into a ball like an hedgehog Arctian. Hair ~~app~~ in bunches apparently rising from large shallow warts, & almost soft curly & more like hair of a mammal than that of other arctians.

Apathus ♂ works on flowers steadily & many or most Bombus ♂ flies about idly on leaves, (trusting to its nest?) But B. vagans ♂ & B. virginicus ♂ works.

= Parthenope auct. Grote

[Sep. 27 found him feeding on oak]

Sep. 26. Caught the (brown) Xiphidium lineatum Walsh MS. ovipositing in the tip of a broken-off stem of Golden-rod, stem growing, but dead & dry where egg was laid. Egg 5 times as long as wide, pressed & about .16 or .17 long.

Oct. 2. Found on a willow (cordatum?) 3 full-grown indigo blue connected by sky-blue Amber ulmicola? One of the varieties? Phytophagous?

Found in an old nest of Hyphantria textor 2♂ 2♀ of a ~~n. sp. Rhaphigaster~~ Arma n. sp. & 5 or 6 of a shortwinged subapterous Pentatoma? with 4-jointed ant., 1 very short 2 long 3 < 2, 4 < 3. Pupa? Do they feed on the larvae, like ~~Tetyra~~ Stiretrus fimbriatus found in another caterpillar nest in the summer (August)? [yes] Can the subapterous sp. be the pupa of the ~~Rhaphigaster~~ Arma? [yes] It is common in the summer, but is very unlike the imago. Lots of the Scutelleride exuviæ in the nest.

The legs of the larva of ~~Eucera? ulmicola~~ so obvious Walsh are not impotent many whitish granules laterally.

Oct. 4 Saw distinctly the pupa of the above Scutelleride with its beak porrect & plunged into the abd. of a Leped. larva 1½ inch long feeding on Mulberry. Had placed 2 among them. Close by was a dead lep. larva, which he had apparently already sucked.

Chrysopa — (specᵗˢ preserved) & Hippodamia maculata prey extensively on the Chinch-bug. Rector Henry Shinn, see his letter.

Hepparchias ocreatus Walsh may be Geometra? siccifolia Fitch (larva only known) N.Y. Rep III. §86, but that sp. spins a cocoon; mine did not.

"Follow truth whithersoever she leads, & dont be afraid that one truth will contradict another or will not explain all the Hieroglyphs of Nature" (to Hagen)

Oct. 29. Placed 5 or 6 Cynips aciculata ♀ on an oak 50 yards from timber (isolated) East of S. end of Causeway over Flat S. of Tour (2 ft nearly at butt.

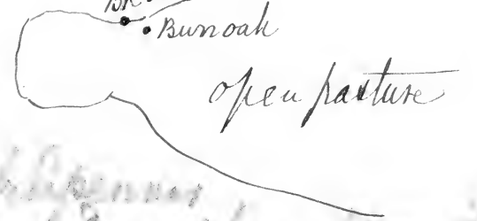
Also ditto on Isolated oak East of Slaughterhouse 100 yd from timber. Day warmish, no frost of nights now. No galls seen on or under these 2 trees.

Oct. 31. Bred Prodecia Commelinæ Sm. Abb. from cabbage larva end of August. See p. 121 = No. 5 or No 6?

Four modes of coitus in Insects. 1st. The normal mode, 2nd Raphidia & Perlina. 3rd Diaphoromera. 4th. Libellulidæ

Nov. 6. 8 ♀♀ C. aciculata came out in last 7 days, all lively. Placed them all on the trunk of a black

oak 12 inches at butt in Jonah Carr's upland pasture No galls on it & no other black oak near it.



Nov. 15 Found in a cell of cocoon (open at top) of C.S. strobil. numerous remains (30 say) of Aphideans (Kirby's Carsei) & intermixed & attached to them 4 or 5 cocoons? yellowish-pale of Proctotrupide? — Placed there by some Fossor, & larva devoured by Proctotrupide?

Dec. 15 Cut into a ♀ Q. Prinus gall. Found a larva (cynips) still alive & kicking. Put those from Red Oak on the ground East of Privy.

Torturing of Nature to fit the Procrustean bed which they have predetermined in their own mind she shall be upon, whether or nay —

N. Y. [illegible]
Jan 29. 1866

Dr. Velie's Colorado
Lepidoptera

1. Parnassius Smintheus Doubled.
= nomion = clarius = clodius
2nd Pieris var. casta
3. Col. eurytheme
4 Nath. Iole
5. C. Huntera
6 Limenitis Weidemeyerii
7 Van. Milberti
8 Argynnis columbina
9 " zerene
10 " aglaia? atlantis?
11 " myrina? post wings orig
12 Melitaea editha
13 " palla
14 " mylitta
15 " phaon
16 Polyommatus acmon? 55
17 " n. sp.?
18 Chionobas n. sp.
19 Coenonympha ochracea
20 Pamphila n. sp.
21 Syrichthus n. sp.
22 Omiala vermiculata
23 Saturnia eglanterina Grote Boisd.
24 5 undetermined heterocera

[illegible] Units - not [illegible]
Colorational, Phytophagous
Units of [illegible] (Pr. S. Nat. p. 244)
[illegible]
Three [illegible], Habits,
[illegible]
See [illegible] (from [illegible]
[illegible] description) must
be a Diplosis [illegible]
p. 593

Sent Mus. Comp. Zool.
*621-2. 55 large dotted wings Oedipoda — proth. trifid
*623-4 — scarlet-wings
625 aequalis ♀ Say. [illegible] Scudder, [illegible]
*626 largest, proth. trifid (like Oedip. maritima)
*627 Od. trifasciata Say
*628 — near 3-fasciata, but antennae shorter & slender
*629 Gr. formosus Say
*630-1. Black short wings; Chloealtis? [illegible] Say
632-Acr. alutaceum — "[illegible] & rubiginosum
[illegible] spots on elytra [illegible]
A. [illegible] Uhler. Scudder
635 Cal. flavovittatus ♀ (♀ wings too long. Scudder)
636-7 — femur-rubrum
638-9 Blue & red — very abundant in Kansas & — [illegible]
640-2. Like Romalea — & the Florida Romalea [illegible]
abundant west of Mississippi
644-5 Ephippiger ♂ ♀
647-8 ——— Pupa
Anabrus purpurascens [illegible] Uhler?
[illegible] p. 330
649 Con. ensiger ♀ - [illegible]

[illegible] - [illegible] several [illegible]
[illegible] season, [illegible]
[illegible] states that the [illegible]
[illegible]" See [illegible] p. 251
[illegible] n. sp. [illegible] p. 8
[illegible] [illegible] [illegible]
[illegible] states of Kansas [illegible]
[illegible] p. 323)

* unknown to Scudder

141 Produced in Feb. in Union Square many Salix longifolia with Cecidomyia galls in abundance among S. alba in Union Square. No galls on S. alba.

— Saperda [illegible] & S. populicola [illegible] from [illegible] on Poplar. [illegible] S. [illegible] on willow & S. — on Cotton wood. Philadelphia. [illegible] S. [illegible] on [illegible] [illegible] & S. [illegible] on "[illegible] [illegible] "plum" [illegible] [illegible] I. p. 385 — [illegible] [illegible] [illegible] [illegible] [illegible] p. 107) [illegible] [illegible]

[The [illegible] [illegible] are [illegible] [illegible] infesting [illegible] in the [illegible] [illegible] in the [illegible] [illegible] in [illegible] ([illegible] [illegible]) near [illegible] [illegible]. The [illegible] [illegible] [illegible] [illegible] many miles. [illegible] [illegible] [illegible] in [illegible] U.S. [illegible] 574 [illegible] [illegible] [illegible] [illegible] [illegible] S. [illegible] ([illegible] [illegible]) [illegible] ([illegible]) [illegible] [illegible] [illegible] [illegible] ([illegible]). They [illegible] of 10 [illegible] [illegible] [illegible] are [illegible], 4 [illegible] in [illegible] & Poplar which cannot be [illegible].

— The so called "[illegible]" that [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]. [illegible] [illegible].

a) Modern German anatomists have established that the viviparous Aphides have no ovaries & produce by budding. There are no true eggs according to their opinion." O.S. W.S. 140

" [illegible] Von Steenstrup who first proposed in 1842 that the reproduction of the Aphides was a form of alternate generation. Later Carus, Siebold & principally Leuckart (in his pamphlet 4o 1858) have by their [illegible] come to the conclusion, 1st that the viviparous Aphides are distinct from the [illegible] [illegible]; 2nd that the development of the [illegible] in them belongs to the class of the phenomena called alternate generation; [illegible] the viviparous Aphides [illegible] are [illegible] "Nurses" (Ammen), [illegible] Leuckart [illegible] that the [illegible] [illegible] has nothing to [illegible] with the [illegible] of eggs; that the [illegible] [illegible] are [illegible] [illegible] [illegible], which [illegible] [illegible] [illegible] that the [illegible] ([illegible]) are [illegible] in them by Keim-stock (Keim = bud or embryo" O.S.

143 Sphinx 5-maculata — Transf.n very rarely delayed to 2nd summer? Seidler P.E.S.P. III p.650 So Sphinx drupiferarum. ibid p. 157

Larva of Stibba (Walsh) said to be really a ♀ imago by Siebold P.E.S.P. III p.149. (See quotation from Walsh in his those Secondary printed letter) Then there must be winged dimorphous ♀♀, otherwise how can the race be propagated?

[illegible]

— March 27. Found white hickory (in Case's field close to stiff grape-vine & q-prunus tree) full of the woody galls whence I once bred a Trochelium. Found in one of them 4 larva 1/4 inch long, front 1/2 very robust & apparently from head Curculionidous. [Bred a black Curculionide magdalis? may 22. from these galls.]

— March 31. Taeniopteryx fasciata Burm. does not hybernate in imago but comes out from Mississippi River now. Found numberless sp.s under rejectamenta some mature, some just come or coming out & preceded

one perfect pupa. Found in company about a dozen Capnia pygmaea? Burm. All ♀♀?

[illegible] q-prunus gall opened (on shelf [illegible]) [illegible] healthy & living larvae [illegible]

— Apr. 4. A remarkable ♂ S. siliqua from S. humilis. Length (recent) .25 inch (ita). Kept it 24 hours alive: dorsum of abdomen  deep brown black with very definite edges, the sutures (=  1/2 length of other part) & venter fulvous. Outer white hairs & laterally up to dorsal brown-black. Eight distinct abd. jt. last smaller & narrower & bearing the genitals. Fulvous suture between 1st jt. & metathorax. Abdomen evidently abnormally swelled as often in Gomphus, for thor. & head not much larger than in ♂ S. siliqua from S. cordata which came out same day & when alive measured only .15 inch. All from S. cordata hitherto (4♂ 5♀) had dorsum abd. brown black & venter nearly the same, or slightly sang. How easy, if only this one bred, to separate it as a distinct species by glaring & obvious characters! Those from S. cordata had the thor. sub-bivittate with whitish hairs.

— Apr. 7. In a recent S. cornu gall found [6 or 7] orange colored larvae (Chalcididous). The normal diaphragm, & gall bored with 2 or 3 minute holes. Head & 3 thoracic segments perfectly hyaline, rest deep orange. No breast-bone. Placed in vial. {May 14 5 came out Chalcidides + 1 pupa + 1 larva}

[illegible] according to the [illegible] transform to [illegible]

Mell. lb. p. 179

Apr. 11. Larva C. s. triticoides .09 inch long, ~~full~~ 3 times as long as wide, ~~luteous~~ fulvous with whitish bowel-like markings. Breast-bone ȣ-shaped as in Brass. &c. Entire cell .5 long, .05 wide. Cocoon ~~attached in wood-part of cell~~, free; ~~in bud part~~. One extracted whole contained larva lying ~~little~~ with its head a little behind central point of cocoon. One living sp. & a dead & partially dried up one, which had become lutes-fulvous instead of fulvous. Head very large & as long & wide as segments are long, so that when retracted ant. end. of body seems truncate. Two S. gemma opened contained each a white Chalcide? larva (no breastbone) about .1 inch long.

~~S. [illegible] 7 or 8 sp.? more or less depressed or deflexed, instead of dorsal.~~ see p. 145×

Apr. 9 Placed 2 pupæ & 2 larvæ of S. strobiliscus? (S. discolor) in a vial. Apr. 14 one larva had changed to pupa, but legs just as long as other 2 3, or all 3 alike.

Apr. 14 Imago ♀ from S. discolor? selegna n. h. undistinguishable from imago ♀ same day from S. humilis gall selegna.

Apr. 16. Bred 3♀ 2♂ Nematus s. pomum? Compared (recent) with recent ♀ S. desmod. bred yesterday but killed today, abd. & legs of all (except of course abd. dorsal black parts) is ~~pale greenish white~~; ~~so also in dried sp. In~~ fulvous or dull fulvous whitish. In S. desmod ~~they are~~ pale dull greenish white & so also in all dried sp. so far as legs at least.

N.B. [illegible] all [illegible] greenish

.5 ♀ from S. discolor potato-like smooth gall = C. S. batatas. Scutel densely covered in 2 or 3 with forked white hair Ψ in a dense brush. [So in humilis Cec.?] So in several on Apr. 18

None bred 1865

Apr. 17. Cec. s. batatas (7 ♀) bred from S. discolor gall have a whitish cinereous narrow linear eye orbit (like Cec. orbitalis) & disk of each ventral brown, when wh. hair is removed, forming square brown plates. ♂ Cec. s. batatas apparently has white orbits too.

Apr. 18 10 ♀ C. s. batatas from S. discolor had all the eye orbit as above, but (being killed immediately after coming out, the others having lived 7 or 8 hours) had venter all sanguineous immaculate.

Found Arma spinosa Dallas (tip elytra vittate dusky) ~~Rhaphigaster~~ (cabl.) in copula, one of them with its beak into an Andrena ½ inch long. Thought I noticed subsequently one stick its beak into blossom of S. humilis.

Apr. 20 Today & yesterday 7 or 8 more C. s. batatas came out from S. discolor galls each day. All ♀.

Apr. 18 Found a Stylopized Andrena on willow blossom. On April 19 fixed him under a glass with wetted sugar. May 3. sick. May 4 died. No result.

Apr. 21 3 ♀ C. s. batatas from S. discolor galls (no ♂ yet) no parasites. [N.B. ♂ afterwards, but no Cec. parasites.]

~~Found numerous larvae (apparently [illegible] came out May 21 & 2 May 29 [illegible] disappear) on S. humilis [illegible] in cases like pitcher-plant [illegible] of willow-leaf [illegible] (R. S. P. [illegible]) [illegible]~~

Apr. 23 Found one similar case on S. cordata, old & empty. Base of leaf always tied to twig with silken cords. Leaf cut thus: 

N.B. According to Harris Cynthia Atalanta normally draws leaves together in the same way. Inj. Ins. p. 295

147 Apr. 30. Came out 1 ♂ 3 ♀ C. S. strobilescens, on S. discolor.?
♂ (certain) right ant. (3 last jts sessile) 23-jointed
left — (1 last —) 24-jointed.
All ♂♀ with a white annulus of hairs next eye on occiput. Scutellum with a forked brush of wh. hair. White hairs of dors. thor. nearly in two rows. 1 ♀ ~~[illegible]~~ (× on card) with origin of anterior branch of 3rd long. very distinct. Rest indistinct ♂♀.

The gall in gall-wood is no additional criterion of distinctness of species, [illegible] larva, pupa & imago, or imago only according to some [illegible].

May 1. C. S. cornu[?] [illegible] distinguished from C. S. [illegible] [illegible]

May [illegible] [illegible] gall [illegible] & probably [illegible].

May [illegible] [illegible]

May 10. Larva of Nymphalis disippus? Willows. Cylindrical, 1.2 inch long, .25 inch diameter. Whitish. Head dull olive, with dense minute prickles & a pair transversely arranged on vertex, which is bifid, of prickly cylindrical horns about .03 inch long. On segment 2 ditto black & .16 long. On 3, 10 & 11 a pair of larger dorsal tubercles transversely arranged, each crowned by a little yellowish bunch of 8–12 robust prickles. On jt 5 ditto larger & mamma-like. On 4, 6, 7 & 9 ditto, smaller

than on 3 10 & 11. On jt 12 4 black prickly dorsal horns, quadrangularly arranged & about .03 inch long. [Dorsum speckled & mottled with olive of different shades above line of spiracles, except jt 2 & 8 & the upper part of 7 & 9, leaving a continuous pure white line above the spiracles, beneath which white line on jts 4–10 is a large olive patch extending to external of prolegs. Legs blackish Carya-[illegible]

[illegible]

Legs blackish
Spir. blackish

of black granu[illegible] d, dorsal dots in the suture behind jt. 2 & a less obv[illegible] [illegible]al [illegible]ne above 2nd & 4th prolegs surmounting the lateral white line. Joints 3–7 & 9–11 with more or less shiny, elevated blue dots. Spiracles blackish.] Three specimens.
[May 14 S. gemma all mouldy. Dug out of 4 of them a black (Chalcidide?) pupa about .1 inch long, preserved. In one noticed much large-sized frass. Does the Tenthredinide come out in the fall?
[May 26 found in this bottle 1 ♂ 1 ♀ cecid. which must have come out since 14th. Preserved.] 148

Carya
alba

Apr. 30. Came out 1♂ 3♀ C.S. strobilescens, on S. discolor.
♂ (certain) right ant. (3 last jts sessile) 23-jointed
left — (1 last — —) 24-jointed.
All ♂♀ with a white annulus of hairs near eye on occiput. Scutellum with a forked brush of wh. hair. White hairs of dors. thor. nearly in two rows.
1♀ ~~crop~~ (× on card) with origin of anterior branch of 3rd long. very distinct. Rest indistinct ♂♀.

The Gall in gall-insects is a [illegible] criterion of distinctness of species, whether larva, pupa & imago, or imago only according to some writers.

May [illegible] C.S. [illegible] [illegible] from C.S. [illegible] [illegible] [illegible]

May [illegible] [illegible] healthy & probably alive.

May [illegible] [illegible]

May 10. Larva of Nymphalis disippus? Willows. Cylindrical, 1.2 inch long, .25 inch diameter. Whitish. Head dull olive, with dense minute prickles & a pair transversely arranged on vertex of whitish bifid prickly cylindrical horns about .03 inch long. On segment 2 ditto black & .16 long. On 3, 10 & 11 a pair of large dorsal tubercles transversely arranged each crowned by a little yellowish brush of 8–12 robust prickles. On jt 5 ditto larger & mamma-like. On 4, 6, 7 & 9 ditto, smaller

than on 3 10 & 11. On jt 12 4 black prickly dorsal horns, quadrangularly arranged & about .03 inch long. [Dorsum speckled & mottled with olive of different shades above line of spiracles, except jt 2 & 8 & the upper part of 7 & 9, leaving a continuous but wide white line above the spiracles, beneath which white line on jts 4–10 is a large blue patch extending to external tip of prolegs. Legs blackish.

~~[illegible]~~

a pair of black transversely arranged dorsal dots in the suture behind jt 2 & a less obvious lateral one above 2nd & 4th proleg surmounting the lateral white line. Joints 3–7 & 9–11 with more or less shiny, elevated blue dots. Spiracles blackish.] Three specimens.

[May 14 S. gemma all mouldy. Dug out of 4 of them a black (Chalcidide?) pupa about .1 inch long, preserved. In one noticed much large-sized frass. Does the Tenthredinide come out in the fall?
[May 26 found in this bottle 1♂ 1♀ cecid. which must have come out since 14th. Preserved.]

Legs blackish
Spir. blackish

May 20. Tramea n. sp. ♂ Anus is beneath inferior appendage.

May 21 Found very numerous ??? galls like Tubicola O.S. on leaves of wild plum; also terminal vestiges of galls like S. Brassicoides.

The oak on flats East of Slaughter house had 20 Spongifica galls. That in Case's field was full of them — 50 or 60 at least. Galls now some small, some 1/2–3/4 inch in diameter. No signs yet of any new Black knot.

The black oak on Flats North of Jone's House had 4 galls only: those South of it all the way along had a few galls (spongifica) each. The one most to the South had a new kind of gall, white, woolly outside, fleshy inside & polythalamous, 1–1 1/2 inch in diameter, growing round the base of the catkins, = q. sp. [illegible] = q. flosculus

May 26. [illegible] found in S. [illegible]

[illegible]

May 26 [illegible]

May 27. [illegible] on Solidago [illegible]

[illegible]

May 29. Found [illegible]

[illegible]

May [illegible] Anus in Gomphus below inferior appendages [illegible] above two anal appendages.

[illegible]

June [illegible] Deilephila [illegible]

[illegible]

June 4 Captured ♀ Synergus rhoditiformis on a green q. podagrae gall at large. Many of these new galls bored; others not. The borings lead to empty brown cells, promiscuously intermixed with which are greenish white semipellucid solid cells (not projecting at all from surface as in q. cornigera O.S. vide) containing no larva & about size of grain of rice, axis perpendicular to surface of gall. [Bassett right about his species being double-brooded.] These last mostly adhere to bark on pulling it off & are fleshy but moderately solid & hard. Out of about 30 galls, nearly 1/2 are thus partially bored.

Gathered lot of q. flosculus galls (Black oak, see p. 149) Now tinged internally with reddish brown, smooth & with no knubs like seminator. Cells very hard & woody. One contained chalcid larva & one a cynipidous pupa. They adhere

 scarcely to stem, like seminator galls

— Of over 25 spongifica galls opened today, only 2 contained pupa of cynips, & these had been eaten into by tortrix larva ¾ inch long found therein & were thus prematurely ripened. These 2 came off oak on flats East of road "necrophorus corner".

Two chalcid larvæ found in spong. galls were hairy. Callimome? or Decatoma? Must be Callimome, ∵ hairy larvæ found in strobilordes &c galls, which produce no decatoma.

[See p. 154 ×]

[illegible] g. prunus [illegible] (R. E. S. II p. 67)

June 5. On tree in Josiah Case's field, found about 40 pseudotinctoria, some intermixed promiscuously on same bough with Spongifica. Only 6 or 7 Spongifica in all, besides 2 or 3 destroyed by Lep. larvæ. Pseudot. grow from under side of leaf like spongifica &c. When ripe, are detached by the least touch. As I am certain that I found very numerous pseudot. under the Red Oak at Lib. 4-maculata corner, this species also (like g. prunus) must be common to Red & Black oak (?) Osten Sacken thought it (M.S.) an undeveloped spongifica. Is it not his g. centricola? No! Filaments of

that gall with a "silky gloss" ✕ g. inanis. This pseudotinctoria has filaments very stout & cottony.

June [illegible] g. prunus (open?) still in larva state [illegible] Black Oak close to J. Case's East fence [illegible] among 36 spongifica galls. These galls on [illegible] all still in larva west of Road; opened 2 [illegible] pseudotinctoria gall on Red Oak different from that on Black Oak. When recent [illegible] (like inanis & [illegible]) [illegible] as age [illegible] that on Black Oak [illegible] spongy & very powdery & no [illegible] radiating fibres of the latter [illegible]

[illegible] From galls g. [illegible] (= [illegible] O. S.) [illegible] without a single [illegible] (The [illegible] pointed & curious [illegible] abdomen [illegible]) [illegible] a dozen more [illegible] left in bottle.)

[illegible] 497.

[illegible] 54 [illegible]

[This was oak S. of Slaughterhouse, on which I had hung strings of galls spring of 1864. ~~Necrophorus corner~~ See p. 1149 ×]

[illegible] 5

[illegible] by Lep. larvæ [illegible]

[illegible] (striped larva) [illegible]

[illegible] apparently [illegible]

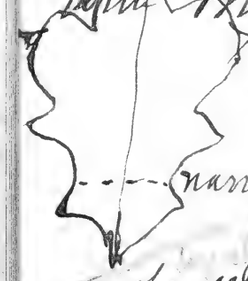
[illegible] Case's [illegible] spongifica came out [illegible]

[illegible] spongificas [illegible]

June 10. Took ♀ Cynips on coiled ♀. The ♂ embraces the occiput (not neck) with his appendages, the superior ones behind the occiput the inferior ones before it.

June 11. On a basally lisped Red(?) Oak at West side of Gompher's peninsula Plateau, strong 30+20(?) spongifica galls.

On a Black(?) Oak Sapling, with leaves almost as broad as long & very large, found 7 spongifica galls. Sapling on Bluff, beyond fork going to Bluff Valley field, left of Road, opposite stump marked with brush. Sapling also marked with Brush & blazed on East side Africa.



June 12. Three Cynips larvae on hickory. Length 1¼ inch. The two normal black penciled on pr. 1 & similar two on 12. Long black tufts close docked as usual on 4–7 & on 11, with a few grayish-white hairs intermixed. The short tufts ~~white~~ on 1–3, 8–10 & 12 yellowish with many white hairs intermixed. The lateral tufts all round ¼ inch long, the hairs of all lengthy & whitish. All the hairs throughout (excluding penciled & docked tufts) bipectinate like a bird's plumage under the lens. Skin dorsally black freckled with whitish, laterally whitish.

Head, Black. Body beneath ~~lead color~~ pale greenish black. Prolegs yellowish, with a medial internal black spot. Legs blackish

June 26. Examined closely 20 black knots gathered yesterday. Cut into 3 or 4. No cells or cocoons. Larvae visible. Noticed on one a vermilion red Thripede larva .03 or .04 long. Two or three had been already (probably) bored by Cynips larva which had gone. Disclosed cocoon cells in some old black knots a week ago out of 6 galls gathered had found a Cynips larva in one, which I preserved.

These B.A. galls arose from a slit which extends down to the pith & are now fleshy (but not juicy) with radiating fibres from axis of twig.

Gall prunus Tubicola. A soft hollow thin-shelled clavate gall .07 – .10 inch long, greenish yellow but generally [illegible] except at base with 20 – 30 of them growing from the upper surface of the leaf end of June (26th) with many young ones coming forward. Inside most (1/2 about) empty; but from one extracted an unimpaired elongate larva 4 – 5 times as long as wide & about .02 long, whitish with 3 or 4 caudal jts. opaque yellowish. Head when exserted very long & pointed & blackish at tip. Breastbone small dusky indistinct. Cecidomyiidous? Four or 5 galls had already burst open at tip. Gall opaque, with short rather sparse whitish hairs. Very abundant on wild plum. Similar gall on choke-cherry. See pp 153 & 108

[illegible] only [illegible] of [illegible] evenly [illegible] 4 – 9 [illegible] black [illegible] 8 [illegible]

June 29 Larva of Arhopalus robiniæ. Jr not at all clavate in front as drawn by O. S. Spiracles on mesothorax & on 1st 8 abd. segments. Length .07 inch. Prothorax not flattened above & below. Prothorax not brownish yellow, but whitish like rest of body with 4 transversely arranged dorsal brownish-yellow roundish spots. Six specimens. Had completely honey-combed a branch 1 1/2 inch in diameter, heartwood & all. [illegible]

— The larva of Sphingicampa distigma (?) when only .50 or .60 long has the pair of horns on jt. 2 & 3 armed with little prickles, about 1/3 as long as body, & keeps the 2 left & the 2 right horns generally closely appressed. On jt. 11 is the normal horn, spangled & fully equal diameter of body. Joints 4 – 10 have small thorns, all alike.

[illegible]

[illegible]

~~July 2. Orgyia larva on thorn still there.~~

July 4. Opened 3 pseudoinct. galls ~~gathered~~ gathered April 8. '62 on ground (q. rubra) & ∴ over 2 years old. Two contained perfectly shrivelled larva & one a plump (& living?) one. A dorsal dark vitta. Cynip. or Chalcid?

~~July 7. Leped. larva (head [sketch]) of black-knot has neither legs nor prolegs, & yet walks tolerably on a Smooth table. [Coleophora, near plum?]~~

July 12. Examined black-knot, & seemed to recognize a minute orange-colored larva in one of the Cecid.-like cells like those of C. s. batatas. Two kinds of Leped. larva, one with a brown shield on 1st segment, the other simple. Found galls (bk. kt.) intermixed with old galls along the longitudinal slit formed by bursting of bark. ∴ not caused by Tenthredo. May be caused by ovipositorial slit of Ceresa. But why not on other Ceresa slits, as in those detected by myself on Crab?

// July 11. The oak-apples on Black oak tree E. of Case's field were all torn off & the stems gone. Of the 36(?) picked up 27 under the bough. Could not have been torn off sooner than July 4 & probably by German crowd celebrating there on that day. Those on Red oak inside sd. field were all gone — none on ground.

July 17. In one of the last-gathered Black-knots found a Leped. larva with distinct legs. Head yellowish [sketch] the emargination at A white like the rest of the body. no shield on 1st joint. While cutting into another Bk Kt. a scarlet

Thrips larva suddenly emerged from the ~~eaten~~ inside when it had been eaten & left full of frass by Lep. larva [Cycnodia? Leped. ?] also a small white acarus. Re-examined the larva (head [sketch]) in the 2nd lot of galls & it was most certainly without legs & ~~[illegible]~~ prolegs. Length .20 inch. 4 times as long as wide. Body yellowish white ~~[illegible]~~ with whitish hairs, head pale rufous. a subobsolete double rufous shield on 1st. Inserted it in a hole of a Bk Kt. much ~~[illegible]~~ frass (& which may contain another Lep. larva) & placed in separate bottle. [July 27 dead.] Found no Cecid. larva.

July 18. Leaf-gall of Vernonia fasciculata? aster (common) [see p. 166] just over Chapp't. fence, end of Myodites Slough.

Gall. Fleshy, diameter .20 – .30 inch. Pale green, often rosy above, globular, projecting from both sides of the leaf, generally most of it above, & hollow with quite thin walls. ~~Often~~ Opens always below, in a round hole.

Larva .15 inch long, 4 1/5 times as long as wide, tapered at both ends. Anal segm. 12 [sketch]. Head large, rounded. ~~Slight vestige of~~ no breast-bone. Orange with not very distinct curd, bowel-like markings: 12 segments + head very distinct; 3 thor. segm. less hunched than abd. A dorsal? or ventral ~~abd.~~ series of fleshy caruncles on abd. jts 1–7, by aid of which it rolls rapidly over sideways: 2 sp.

Pupa. Length .15 inch including ~~[illegible]~~ [Capital?] ~~[illegible]~~ bristles, which are = diam. of body, placed symmetrically behind ant. horns, setose, their basal 1/5 suddenly thickened. Ant. horns conical in ∠ of 60°, acute, divaricating at 90°. Legs ~~not~~ scarcely extending beyond centre of body. Segments much hunched laterally & rolls over like the larva. Color pale sanguineous, front parts largely, abd. with same dusky markings as larva. No thor. bristles. Front parts, especially wing-cases, almost black, just before coming out. ~~sometimes~~: 2 sp.

Many galls were bored & empty July 17. Some 17 on one leaf, partially confluent. 3 ~~[illegible]~~ more (young) larva exam'd. Breast-bone pale, but distinct in two of 3, clove-shaped. Pseudopods abd. not dorsal. On ~~two~~ many larva found a small external feeding parasitic larva, probably {Pteromalide / Chalcid.}

Contained July 19 chalcide pupa, with a black probably [illegible] of larva.
Found in all [2 + 3] galls which contained pupa the exuviae of the larva, milk-white, but distinctly showing segments of larva. Pressured. In the one found hairy, orange larva probably [illegible]. In the cell [illegible] were [illegible] together) found two pupae dipterous & two [illegible] - Larval [illegible] [illegible] [illegible]. Because gall is green.

July 20. Larva of Saperda cretata bores apple trees. (Henry Shimer m.s.)

July 21. Found in a Bk Knot much eaten by Leped.? & coated inside with gummy matter a larva .03 inch long, head-end pointed & groping about with the end like a Syrphus larva. yellowish Whitish, a very distinct black speck very like a breast-bone. Replaced it in gall. — Same time, found on my blotting paper, on which I had emptied the Bk Knots, a nemocerous imago, probably not a gall-maker. Cannot be referred to Anaretina or Cecidomyina.  Near Sciara? [illegible]

July 22. Examined a fresh lot of Bk Kt gathered yesterday. One gall about .5 long & .2 wide contained positively no larva, & was still quite green & fleshy. Found another legless [curculio? lepid?] larva. Found a 3rd. species of lep. larva, with orange legs & prolegs .18 long, 6 times as long as wide. Head polished, black. Body pale yellowish brown with a few short dusky hairs, a polished brown shield on jt. 1 & another on anal jt. Spins a thread & wriggles. [Bred it. Crateta? no other lepid. larva in gall.]

No recent black knots yet bored by the minute holes supposed to be cecid.: all cut into still quite green & fleshy. & may be distinguished externally from old ones by browner & more opaque surface. The Sphaeria morbosa just beginning to appear on some of them.

In the jar with sand containing earliest gathered Bk. Kt. found a living Conotrachelus Nenuphar. The legless (Leped.?) larva probably belongs here. Hence the Black Knot "curculio" cannot be a 2nd. brood of the Plum insect, which are s.d. to "leave the fruit & enter the ground early in July" (Fitch p.20) The "Butternut" con. nenuphar of larger size (Fitch p.24) are probably a Phytophagic Species. Say states (fide Bartram) that it "destroys the European walnut in this country." No intermediate size between plum size & walnut size.

Gall prunus tubicola (see p.155) Some now .25 long, 4-5 times as long as wide. First one opened contained a larva .05 inch long, 5 times as long as wide, head pointed & elongate & works round with it like a Syrphus larva (& the larva in Bk Knot.) Whitish with an abbreviated dorsal fuscous vitta; both extremities of body especially above yellow. A series of [ventral?] carnucles opposite side to [dorsal?] fuscous vitta. Of 20 galls opened, two contained a larva size of above, one a larva only .025 long, & 17 nothing at all! A few opened or gnawed into at tip, & one or two gnawed into (?) laterally.

a ~~very~~ similar but larger gall on wild cherry almost all now split open laterally, so as to show inside fuzzy like brown woollen cloth. A great many had broken off from the peduncle ~~[illegible]~~ & gone. Of 22 sld. opened carefully that had not burst open, one contained a chalcide pupa .05 long, & 21 were absolutely empty. Appears to be a second crop of these galls just springing up from same leaves. Is the insect double-brooded, the 2nd brood going underground for the winter? Otherwise how propagate?

Larvae of Orgyia & Dasychira

	Leucostigma	Willow D.	Thorn D.	Hickory D
joint 1	2 black pencils	2 black pencils	2 bk. pencils	2 bk. pencils
joints 4–7	dorsal yellowish brush	dorsal whitish brush	dorsal black brush	dorsal black brush
joint 11	dorsal bk pencil	dorsal bk pencil	dorsal bk pencil	dorsal black brush
joint 12	0	less obvious & slenderer bk pencils (2)	2 black pencils	2 black pencils

[Compiled from pp. 108, 153 & 155. Leucostigma from Morris Synopsis]

The 3 Dasychira have probably all been confused under Achatina Hubner, though they differ essentially in larva. Rossii & ~~H~~ basiflava Packard don't agree, the former having hind wings yellowish & the latter the base of front wings so. Probably the 3 Dasychira are Phytophagic species, differing in larva only. Orgyia leucostigma varies so much in the markings of imago, that probably Willow D = Thorn D = Hickory D. Sorry to disturb the self-satisfied repose of certain ~~entomologists~~ lepidopterists who describe variable species from solitary specimens & have the most supreme contempt for larval & pupal characters; but science is science & her calls must be obeyed., ~~though~~ It is only in the field & the woods that we can arrive at a correct knowledge of specific

distinctions. The closet-naturalist is at the mercy of any collector who is mischievous or careless or dishonest enough to send him only the two ends of the series ~~of~~ in variable species, retaining or suppressing the intermediate grades. Thus Dr. Harris made 5 species out of Tettix ornata Say & Fitch has made 3 species out of Athysanus variabilis (Tettigon.) The closet-naturalist again can know nothing of larval forms or the plants they feed on, & so long as two imagos agree in their characters, though the larvae may differ either structurally or colorationally or both, ~~the~~ he dogmatically pronounces the two to be identical. Of the 3 states in which ~~an~~ insects exist, he knows only the third & judges & decides only from the third; which is just as irrational as if he were to cut off & throw away the wings & legs of an imago & judge & decide ~~species~~ questions of specific distinction from a consideration of its body alone.

N. B. Hairs of larvae of Arctia isabella & parthenope under lens. Par Orgyia more perpendicularly so. [illegible]

[illegible] Fettenkoles]

July 26. Cut open one of the [illegible] [illegible] Still in larva & quite [illegible] [illegible] [illegible]

July 25 Larva of [illegible] [illegible] has gone underground yesterday, Cage No. 6

July 28. Gathered a green, fleshy, apple-like, subglobular terminal gall, imbricated outside with deformed leaves, from Silphium perfoliatum. Inside many cells containing Curculionidous larvae .1 inch long.

[[illegible] = 0]

A flock of butterflies, four miles long, passed over one of the inland towns of California recently, for the North.

N. Y. Tribune July 25 1865

July 30. Gathered some more Black-Knot. Less juicy now, but still fleshy, like a very juiceless apple. Surface covered with short, cylindrical, densely-set, blunt prickles, which in places have apparently fallen off, leaving the Sphaeria morbosa consisting of naked, round disks.

Cut into 2 or 3 galls. Found one whitish larva .07 inch long, partly damaged, about 3 times as long as wide. Curculio? Was in cell with pass. Also, one minute larva, about .02 long, elongate (5 or 6 times as long as wide) & travelled rapidly. Dipterous? Considerable appearance of incipient Cecid. cells, but still solid. External surface now deep black, not brown-black, as before.

July 31. Found [illegible] galls [illegible] fleshy on Silphium [illegible]. [illegible], much eaten.

On tame grape.  a bunch of fusiform green galls, each about .6 inch long & .4 in diameter, the basal 2/3 smooth, the term. 1/3 pubescent, growing on stem. Inside fleshy, juicy, subacid with a long central cell .25 long & .06 in diameter. Larva ~~deep~~ orange, the disk of dorsum paler: segment

bearing breastbone red above; breast-bone [illegible], length .11 inch. One specimen.

[From Silliman May 1865 p. 362-3. by Dr. W. C. Minor]

Dr. Wagner's classification of generation in Articulata.

"I. A non-sexual spontaneous multiplication of the larva-nurse (Amme) with sexual generation of the developed animal. Germ metamorphosed out of the fat or granular substance of the larva-nurse, & the animal has 3 or 4 transformations. — Cestodes & Trematodes.

"II. Larvae with sexual organs. — Aphides.

"III Multiplication only in the perfect sexual animal; a. in both ♂ & ♀ but without sexual influence — Daphnidae. b, in one sex only, without sexual influence — Bees & some butterflies. c, in one sex only, under the influence of fructification.

"Parthenogenesis is a germination of buds in special sexual organs, though without fructification; alternate genesis is a self-transformation, also unfructified, of tissue into germs or buds, without any special organ for the transformation. No. I belongs to Alternate genesis; II & partly III to Parthenogenesis."

It is perhaps not premature to state here, that the writer has found a number of large, oval germs in some minute larvae observed lately. *** To judge from the difference in shape of the larva's head, these were not of the same genus.

Aug 5. Saw a Vespa maculata [illegible] [illegible] muscide or Tachinide [illegible] [illegible] fly in its mouth. Aug 6. Saw one actually eating a muscide? or Tachin?

Aug 6. The knot still as green as before most of them though a few are dried & those outside of a [illegible] brown. Noticed on the naked twigs bearing the knot the Sphaeria [illegible] [illegible] not very thickly [illegible] as dark some distance from it.

Aug 8. The Ichneumonide (Ired Pelopaeus lunatus) & the similar species without antennal annulus & areolet, both have nearly the peculiar smell of Bombus.

Aug 10 [illegible] [illegible] [illegible] [illegible] the back of [illegible] [illegible] [illegible] [illegible], which [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible] that [illegible] [illegible] of [illegible] [illegible] [illegible] that season [illegible] [illegible] [illegible] in [illegible].

Mr. Gow informs me that at his home in Western Penna. eight years ago Arhopalus robiniae (he knows the insect) was [very] abundant & destroyed many [or most] locusts. Returning there this year he found no signs of its work & the locusts flourishing, many of them large trees much older than eight years. Hence, the insect must migrate.

Aug 15. [illegible] [illegible] [illegible] from pupa [illegible] a few days ago in a [illegible] stalk.

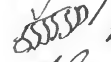
Aug 16. On Aster? (Asteris globulus) (same as supposed vernonia gall producing a Diplosis — see above p. 158). A sub-globular or irregularly oval, smooth, green, solid, fleshy, polythalamous gall .4 — 1.4 inch in diameter, roundish growing (often attached by about 1/4 of diameter) in bunches of 2 & 6, some of them perfectly confluent, on the main stem. Surface often partially covered with brown roughness like that of a russetting apple & occasionally cracked open at tip. Shallow cracks piceous, darker at tip.

Pupa .18 long, fulvous, full 3 times as long as wide. Antennal horns 1/3 diameter of body, a little tapering & rather robust, ~~cylindrical~~, parallel & contiguous basal 2/3, whence they diverge at about 30°. Dorsal abd. surface of all the jts (except the two basal "bogus-abd" joints, ~~& the small apical joint~~), 7 in number, with two transversely arranged rows of blackish minute close-set thorns equidistant from each other & from sutures. Thoracic bristle very slender 2/3 as long as ant. horns. Legs attaining base of penult. abd. On the lower surface of head 2 robust conical thorns long. arranged, the last near the suture with thorax. No postantennal seta.

Found a hairy, white, chalcide larva in gall .17 long; ~~also an elongate, whitish synchedous or tachinidous? larva, .1 inch long~~. Another (smaller) chalcid. hairy larva had abbreviated interior blackish. Very often 2 in 1 cell.

Larva lives in cells toward centre of gall. [Another small chalc. larva an external feeder on cec. larva.] Largest seen .15 long, 4 times as long as wide, yellow with the usual cardy-white markings. Head pointed, with a distinct black dot on dorsal surface. Breast-bone blackish clove-shaped, stem slender, with two robust terminal divergent at 45° pointed horns, each 1/3 as long as whole b.b. Spiracles black & distinct. One pair on mesothorax & one on abd. jts except anal. No metathoracic one. Often lies curved back concave, unlike all willow larvae. Jumps like a cheese-maggot, one under the lens was seen to jump abd. concave by bringing head & tail together.

Aug. 17. Opened 12 or 14 [Aster] leaf-galls; found 3 or 4



with Proctotr. larvæ like Westw. figure. Preserved [ined.] also 2 with external feeding Chalcide? larvæ. No healthy larvæ or pupæ. Larva does not certainly jump, like Asteris globulus larva, but rolls over laterally. The galls containing the above were not open as with the empty ones. Hence hole must be bored by pupa, not natural growth.

One Asteris globulus found yesterday was bored by 7 holes, the Cec. pupal integument still projecting from one hole. [F.A. cone out 18th & 19th = Diplosis]

[illegible pencil note]

Aug 21. Three larvæ of a Cuterebra taken out of the neck of a rabbit about 1.40 inch long & .75 inch in diamr, brownish very pale color, covered by very close set black tubercles or short robust thorns. Two buried themselves in 3/4 hour under moist sand; the other still restless. [Can progress as fast as a slow caterpillar by successive ~~alternate~~ contraction of segments.]

Aug 22. Gall celtidis litunus (Cecid.) A trumpet-shaped, hard, polished green gall on the under side of the leaves of hackberry ~~in company with Psyllade gall (S.C.)~~ attached by only the central portion of the expanded end of the trumpet to the under side of the leaf. Hollow, walls thin. Tip extreme tinged with pink. Length .16 — .20 inch, the tip often slightly curved. Basal diameter .10 — .13 inch.

Larva milky white, .075 inch long, 2 1/2 times as long as wide, yellowish brown breast bone distinct, Y shaped, the 3 arms subequal, the basal arm robust, the terminal arms exactly parallel.

Gall Celtidis cucurbita (Cecid.) An irregularly oval or subglobular hard gall of a greenish white color with a pink or sometimes red purple cheek like an apple, its sides more or less obsoletely ~~striated~~ & in the most mature specimens with an irregularly bulging cordon round their middle, so as to resemble somewhat a summer squash. Length .08 — .12 & diameter a little less except in the most mature specs. when it is a little more. Attached by a point only to under side of leaf. A small terminal nipple surrounded by an "

Larva like litunus, but arms Y diverge slightly.

Gall celtidis mamma (Psyllidous.) A large nipple-like pale green hard but somewhat fleshy gall growing from the under side of the leaf often 12 or 15 in number. Length .20 — .33 inch, & diameter about .20. A deep corresponding in size hollow on upper side of leaf with central ~~areole~~ & minute nipple. Occasionally 2 confluent. Sub-cylindrical, tip rounded & generally a lateral medial constriction. On cutting into it it is found to be composed of a rather fleshy cap surmounting the hard ~~semiglobular~~ arched or semiglobular base of the gall, like a large inverted teacup surmounting a small inverted tea-saucer; & in the space between the "saucer" & the "cup" lives the larva.

[illegible pencil note]

Aug. 17. Opened 12 or 14 Aster leaf-galls; found 3 or 4 with Proctotr. larvae like Westw. figure. Preserved also 2 with external feeding Chalcide? larvae. No healthy larvae or pupae. Larva does not certainly jump, like Asteris globulus larva, but rolls over laterally. The galls containing the above were not open as with the empty ones. Hence hole must be bored by pupa, not natural growth.

One Asteris globulus found yesterday was bored by 7 holes, the Cec. pupal integument still projecting from one hole. [?? came out 18th & 19th = Diplosis]

[The "holes" in ways of so many [illegible] clear proof of [illegible] ... Always [illegible] ... different [illegible] ...]

Aug 21. Three larvae of a Cuterebra taken out of the neck of a rabbit about 1.40 inch long & .75 inch in diam. brownish sepiate color, covered by very close set black tubercles or short robust thorns. Two buried themselves in 3/4 hour under moist sand; the other still restless [Can progress as fast as a slow caterpillar by successive ~~alternate~~ contraction of segments.] [illegible]

Aug 22. Gall celtidos lituus (Cecid.) A trumpet-shaped, hard, polished green gall on the under side of the leaves of hackberry ~~in company with Psyllade gall~~ (See) attached by only the central portion of the expanded end of the trumpet to the under side of the leaf. Hollow & walls thin. Tip extreme tinged with pink. Length .16 — .20 inch, the tip often slightly curved. Basal diameter .10 — .13 inch.

Larva milky white, .075 inch long 2½ times as long as wide, yellowish brown breast bone, deeply & shaped, the 3 arms subequal, the basal arm robust, the terminal arms exactly parallel.

Gall Celtidos cucurbita (Cecid.) An irregularly oval or subglobular hard gall of a greenish white color with a pink or sometimes red purple cheek like an apple, its sides more or less obsoletely ~~streaked~~ & in the most mature specimens with an irregularly bulging cordon round their middle, so as to resemble somewhat a summer squash. Length .08 — .12 & diameter a little less except in the most mature specns. when it is a little more. Attached by a point only to under side of leaf. A small terminal nipple surrounded by an "aureole" ©

Larva like lituus, but arms Y diverge slightly.

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The above 3 often occur on the same leaf, but are very distinct, & [illegible] may be recognized at a glance.

[169] Aug 22. Found two S. [illegible] on the S. discolor in Chappennock. Gathered one for [illegible], left the other. [illegible]
Noticed [illegible] [illegible] sucking the honey of a flower.
Noticed the [illegible] of willow apparently chewing up a [illegible]? about .15 long.

Aug 23. Q. podagrae galls. Noticed two or 3 bored out of many in the field. Cut into bored one & found a black pupa, apparently cynipidous. Others (unbored) contained only larvae.
Gathered very many Q. erinacei galls. One was bored, & others apparently so. [illegible]

31 7 58

[illegible] contained 2 [illegible] larvae ([illegible], black, snapping mandibles) & [illegible] a very elongate Lepid. larva, & dusk of body blackish & another with [illegible] outside had such a larva outside.
Of 22 galls opened, one was 6 – 8 celled, 1 4-celled, 5 3-celled, 8 2-celled & 7 1-celled. Of the whole number of cells 11 cont. what were apparently cynipidous larvae, three of them with a blackish oval body (egg or case of an Ophion?) attached to them by a slender pedicle 1/2 as long as itself, 11 contained what were apparently curculionidous larvae judging from black-tipped snapping mandibles, 5 contained chalcids pupa one a chalcid imago & one what was evidently from an

a cynipidous pupa, the remaining 17 being empty. One of the curcul. larva had the empty integuments of the [illegible] cynip. attached to it, & one was distinct from the others with dorsal caruncles. Curcul. perhaps = cynip. [illegible]? Their cells so [illegible].
Found no galls without prickles, but longer in some than in others. Wear off in winter?

Aug 25 Gall Salicis pisum on S. discolor. An irregularly spherical, yellow? pale yellowish green gall always growing on the under side of the leaf & attached by only a very small portion of its surface .18 — .28 inch in diameter & a few which were probably immature only .08 in diameter. The surface of the gall is glabrous, without pubescence in some smooth & even, in others a little shrivelled, irregularly studded in the medium-sized ones with 4 – 12 small robust conical nipples, which in the larger ones have burst into a scabrous brown scar. Only in 3 out of 62 galls was there any rosy cheek as in S. pomum. The point of attachment is marked on the upper side of the leaf by a brown subhemispherical depression about .04 in diameter. Described from 62 galls. wall of gall

almost invariably there is but one gall to one leaf, but on 3 4 leaves there were 2 & in 2 leaves 3 of them, & occasionally two are confluent.

Larva. [3, 0, 6, 0, 1?] 3, 0, 6, 0, 0 anal [20] 13 [illegible] folded, whitish-hyaline .17 .23 long, 6 times as long as wide, head slightly tinged with dusky, mouth dusky, eyes circular & black. Holds its body behind 6 legs in the air (Westw. II. 104 ☆) Anal segment = 2 others divided by an apparent medial suture. Could discern no anal prolegs

171) On the same tree with above (road to B. Hd. cave) occurred 13 galls scarcely distinguishable from S. pomum except by having the same rough bristling nipples as the above. One or two of them, as well of preceding, were bored probably by anthon. scutellatus, & empty.

Aug 26 – a cecid? hairy larva came out of hickory wood gall. about .9 in. [illegible]

Q. prinus (cut off black oaks) ovate, length .40–.85, diameter .30–.60, [illegible] pointed at tip like an ovate leaf & attached at base by a ~~[illegible]~~ smaller portion, apparently in bunches [illegible] like Q. prinus [illegible] Color [illegible] paler [illegible] base [illegible] purple [illegible] [illegible] each of them with 2 or 3 [illegible] fine larged holes. [illegible] finished [illegible] & whitish internally dull purple [illegible] still plainly visible. Preserved [illegible]

Aug 25 Q. pilula (cecid. gall) [illegible] appears

Aug 27 [illegible]

[illegible]

[illegible gall on [illegible] Q. modesta? 0-5 on Red oak [illegible] N. of [illegible]]

Q. erucæ (cecid. gall) on Q. tinctoria An elongated {pale green} unpubescent but rather rugose swelling along the midrib & principal veins, & attached to them for its entire length by about 2/3 its diameter, looking somewhat like a green lepidopterous larva ~~attached to them~~, .2–.35 long, & about .05 in diameter; internally hollow, with thin hard woody walls. Its general shape is cylindrical, tapered at each end, & it is generally constructed at irregular intervals by 2 or 3 transverse wrinkles proceeding from the vein to which it is attached.

[illegible]

Aug 28. 29 [illegible] 44 [illegible]

on one leaf of which appear to be a distinct species
as the galls are cupped & the radiating ridges very distinct.
Certainly pale green, externally dark green striped
with purple. Could find no larva.

Aug 28. Found many Bruchus abbreviatus? Melsh
on pods &c of Cassia Marylandica L. (determined
by Dr. Parry.)

My asteris globulus & ast. bulla must be
helianthi globulus &c. auctore Dr. Parry.

2 g. patella (oak-spangle) on white oak. A
saucer-shaped, flattened gall on the lower side
of leaves 2–15 together, the inner surface
attached by a central very short peduncle to
leaf, the outer surface a little hollowing,
with a central nipple & fibres radiating
from it to the circumference like spokes of
a wheel. Color generally a pale

174 as long as wide, some pedicels [illegible] resembling grains of rice, length about .02 inch. Spider eggs? [Oecilia.]

— Aug 31. Bred Centrotachinus Nananthum? from Black Knot. Bred rather early in season. Date [illegible] recorded? [July?]

Found 3 or 4 large Dryopa leucostigma larvae on Sycamore. this feeds on nearly same trees as Hal. Rhodanthe? & [illegible] — nothing peculiar in that tree universally [illegible] to such larvae.

— Sep. 2 larva (2 specimens) in g. ficus now .07 long, white, with large, scaly head, & tips of jaws fuscous & snap together. larva in g. erinacei supposed curcul. is really chalcidous?? Ichneumonous?? One larva showed no mandibles. Cynipidous? All from central cell. One chalcid.? larva with pointed tail showed subfuscous mandibles, & 3 others with dish of body blackish towards tail ~~the same~~ very plain fuscous-tipped mandibles, which snapped. Several bunches of galls gathered yesterday had galls alternately pale yellowish green & bright rosy. Some now brown & partially ripe, some pale yellowish green & some ditto with rosy cheek.

— ~~Found~~ 2 large white larvae 1/4 inch long & 3½ times as long as wide imbedded each in a cell in the lateral sponge of g. globulus. Head large & scaly & tips of mandibles fuscous. Ichneumonidous? or some inquilinous Lepid.?

gall g. pilula on red oak now contained, beside 1 orange cecid.? larva, chalcid.? larvae with fuscous-tipped snapping mandibles; one cell had two in it. Almost every gall was hollow with 2 cells (about) & contained one or more of then chalcid? larvae. Examined 12 or 14. 175

— Two crops of the gall-like fungus on red Cedar about Aug 25. The old, dry, last year's ones are free from borings (except a lep. in two which had bored & perished there in larva state.) ∴ Not galls: ∴ Bk Knot (analogous) not a gall, but an epiphytous fungus.

From [illegible] small & immature galls apparently of g. globulus, recently found, this must be an intraneal gall.

Sep. 3 Dryo. bicolor larvae still on leaves [2 left? on side.] Now 2 inches long. Sep. 4 [illegible] 8th [illegible]

[~~If it had so happened that larvae were easily preserved in Cabinets & imagos not so, then I have no doubt that the closet-naturalists would neglect & undervalue ~~imaginal~~ the characters of the imago just as ~~the~~ many of them now do those of the larva. Genera & species wd. then be characterized almost exclusively ~~solely the~~ from the consideration of the larva, just as they are now characterized almost exclusively from the consideration of the imago; and closet Entomologists wd. be no more disconcerted at finding two distinct imagos undistinguishable than they now are at finding 2 distinct larvae undis-~~

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unperishable, as happens so frequently both in Hymenoptera & Diptera & to a less degree in Coleoptera. Just in the same way the closet-conchologists have based their systematic distinctions almost exclusively upon the characters of the shell, neglecting or undervaluing the characters of the other parts of the animal; whereas if it had so happened that the shell of a mollusk was perishable & the other parts of its body easily preserved, instead of *vice-versa*, then I have no doubt, they wd. have neglected & undervalued characters drawn from the shell & laid the chief stress on those drawn from the other parts of the body.

Sept. — Examined 22 D. 10-lineata on egg plant. All had two stripes with sutural confluent behind, except 2 which on one elytron only had them non-confluent.

[Constant characters in Ichn. & Tachinae

1. Shape of abdomen, whether ovate or subcylindrical [illegible]
2. Color of wings, fuscous or hyaline
3. Annulation of antennae (this not so in [illegible] parvus)
4. Coloration of legs, but variable in [illegible] grandis
5. [illegible] annulate [illegible] p. 58

In Cage No. 6 a green cerura? larva, 1½ inch long, two [illegible] in place of anal-prolegs, a [illegible] narrow dorsal [illegible], & [illegible] whitish lateral [illegible] like a Sphinx. [illegible]

Sept. 8 Found a g. [illegible] full as [illegible] as a strawberry, between two normal ones on the same rib-stem, the 3 contiguous. [illegible] like g. [illegible] & a [illegible] from each

[Conducted my experiments carefully & [illegible]

~~[illegible]~~

2nd [illegible]

✓ 3rd [illegible]

✓ 4th [illegible]

Sep. 17 many [illegible] from 2d [illegible]

Sep. 18 — Found a dead 1½ inch Dryocampa on floor outside Cage: must be an escaped bicolor. Shown to 2 [illegible]

Sep. 24 Read Consumption from Black Knot.

Barley found in nests
of "Cutting ant" of Texas
(Myrmica Texana)
along with other calcareous substances Buckley
&c stable near.
Pr. Ac. N. Sc. 1860
p. 233

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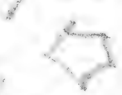
unperishable, as happens so frequently both in Hymenoptera & Diptera & to a less degree in Coleoptera. Just in the same way the closet-conchologists have based their systematic distinctions almost exclusively upon the characters of the shell, neglecting or undervaluing the characters of the other parts of the animal; whereas if it had so happened that the shell of a mollusk was perishable & the other parts of its body easily preserved, instead of vice-versa, then I have no doubt, they wd. have neglected & undervalued characters drawn from the shell & laid the chief stress on those drawn from the other parts of the body.

Sept. 6 – Examined 22 D. 10-lineata on egg plant. All had two stripes and sutural confluent behind, except 2 which in one elytron only had them non-confluent.

[Constant characters in 10-l. & Juncta:
1. Shape of abdomen, whether oval or sub-cylindrical [illegible]
2. [illegible] of wings, [illegible]
3. [illegible] of antennae [illegible] not [illegible]
4. Coloration of [illegible]
5. [illegible] annulata, [illegible] p. 58

In Cage No. 6 a green [illegible] larva, 1½ inch long [illegible] in place of anal proleg, a [illegible] narrow dorsal [illegible] [illegible] whitish lateral [illegible] like a Sphinx – [illegible]

Sept. 8 Found a g. [illegible] full as [illegible] of a strawberry, between [illegible] in the same rib-vein, the 3 carbonaceous [illegible] which [illegible] of g. [illegible] & a [illegible] from each



[Contacted my [illegible] [illegible]

[illegible] juncta [illegible] 10-lineata
1st [illegible] on middle of [illegible]
2nd [illegible]
✓ 3rd [illegible]
[illegible]
✓ 4th [illegible]
[illegible]

Sep. 17 many [illegible] [illegible] from 2nd [illegible] [illegible] 27

Sep. 18 – Found a dead 1½ inch [illegible] on floor outside Cage – must be an escaped [illegible]

Sep. 24 [illegible] from [illegible] Kent.

178 [illegible] Cut an [illegible] Cynips (? [illegible]) and of S. erinacei [illegible] very much more [illegible]

Oct. 2 Found in 2 S. pomum 2 [illegible] 20-sided larva .12 long (.19 inch), glossy white, tinged with dusky & the usual [illegible] mouth [illegible]. In another [illegible] chalcid? larva .15 long, [illegible] with a few hairs on fore part of body. [illegible] of gall a green [illegible] matter. A few galls [illegible]. Found in one [illegible] from [illegible] field a Cynips [illegible] lively.

Oct. 11 opened all S. pomum galls of last year. Found 1 larva (large Cynips) living [illegible] mandibles [illegible] + 2 [illegible] apparently dead [illegible] (+1 [illegible])

11/74 [illegible] imago [illegible] of S. pomum (+1 [illegible]) [illegible] larva [illegible] 5 [illegible] of chalcid? larva [illegible] larva + 12 large [illegible]. 35 No pupa found in the galls.

Oct 11. Of 61 S. [illegible] galls opened [illegible] of those which had central cell [illegible] 35 contained balls of chalcid? larvae, 26 empty or [illegible] matter, 2 dead & dry [illegible] & 1 a Cynipidous? larva alive & moving. 4 [illegible] galls [illegible] each containing

a Cynips? larva, one of them very lively. 179 There were also a few pseudolent galls empty.

Oct 14 S. pisum. About 1/4 or 1/5 now have a slightly rosy cheek. Found 4 Sal. pomum on S. discolor in company with S. pisum, all empty & bored.

Found several Sal. verruca on S. discolor [illegible] larva in three (or 3) [illegible] orange [illegible] whitish [illegible] as usual ([illegible] black) .08 long, 2½–3 times as long as wide [illegible] flattened, head large.

No larva in S. cordata [illegible] agree to S. [illegible]. No larva in them [illegible] in one. — see p. 190

Oct. 15 S. caducus [illegible] Bunches of 1–15 globular, dull opaque [illegible] subsessile [illegible] galls growing from the midrib of the leaf on the under side [illegible] .06–.07 [illegible], sometimes [illegible] each other [illegible] but in one [illegible] & wall of gall [illegible] 1/3 or 1/4 of diameter [illegible].

Found [illegible] on [illegible] oak, & [illegible] fairly resembling [illegible] had been [illegible] perhaps [illegible] off.

The tree (supposed [illegible] oak) on which I found [illegible] punctata gall on a black oak, from [illegible].

Oct 15. Opened (16) spongifica from Case's field

~~||||~~ ||		empty
||||		bunch of chalcidids
~~||||~~		*	acciculata (living)
			[illegible] up (sponge eaten all away)

Neuropterous corner (4)

|||	+	acciculata (living)
			empty (cell eaten away)

Slaughter house (5) (1 of them "Allemone July 5")

		empty
|||	bunch of Chalcid.
		no cell, (Trash within)

All my ~~[illegible]~~ [illegible] had escaped & nothing to bury [illegible]

* Oct 16. Placed these six on [illegible] Black Oaks on the trunk) close to Jones's North [illegible] a few [illegible] from N E corner

+ Oct 16. Placed these to isolated Bl. Oak at the S.W. corner of a bunch of Oaks farthest North from the Sycamore [illegible] of the graveyard.

Oct. 21. Dug out from galls 22 acciculata, all very lively. On the N.W. Black oak in the clump of trees in the N E corner of Jones's field placed on the trunk 9 specimens. Day very warm & still. I Picked up one ~~empty~~ barren spongifica gall under the S E tree but saw no ~~others~~ there.

On the Black Oak (formerly mistaken for Red Oak & bearing supposed c. q. punctata gall) South of the E end of the Brasier Lane placed on the trunk 10 specimens & on the East overhanging bough 3.

Oct 31. The Decatoma? (spotted wings) seem to have just coming out from q. podagrae. Up to yesterday none [illegible]

Nov. 5 Cut open one [illegible] gall from Case's field [illegible] with acciculata. Contains the living larva, evidently [illegible]

[illegible] of 21 [illegible] galls 4 [illegible] had come out, all lively. Dug out of the [illegible] 3 lively ones + 1 Callirrhene (? [illegible]) Placed the 7 on (Day [illegible] still pleasant [illegible] [illegible]) [illegible]) [illegible] of 4 in [illegible] [illegible] N.W. of Pump. [illegible]

+

— Dec 17. Gathered over 100 [150] Spongifica galls, all but about 20 bored. Of these 20 all but 2 were abortive; in 1 of the 2 found dried & broken remains of an aciculata imago & in same cell a full grown hairy Chalcid larva, probably the usual Callimome. In the other found the same larva, solitary.

The S.E. 2 oaks on the N.E. corner of Slaughter house are full of these galls as an ordinary apple tree of apples.

— Glover, Entomologist of Agr. Dept. at Washington, (p. 561) was called on to do hosts of things besides entomologizing. This is like hiring a single cradler to cut 10000 acres of wheat, & then expecting him in addition to cut & fetch in wood, peel & wash the potatoes ~~[illegible]~~, & be always on hand ready to wait on the good woman of the house.

On inherited Mutilation & inherited obsolescence & on a case of Mimicry in the diurnal Lep. — by Benj. D. Walsh (7 Feb. '69)

disippus ~~[illegible]~~ common, ursula rather rare
Kirkpatrick III. p. 329

artemis very rare, disippus very common Luther
ursula rare
III. pp. 62—4

"P. Polydamas is found all over Tropical America. I have had it from Honduras & Brazil." (Edwards ms.)

"P. Calverleyi Grote is a suffused Asterias" (Edw. ms)

"One of the collectors that came out with me [to Va] last summer reported seeing a big dragon-fly pounce upon Glaucus & carry him away as a hawk does its prey*. I have heard from another collector of a similar case that he saw!" (Edw. m.s.)

The much greater tendency of the southern birds, or those belonging to the cotton region, to go northward in the Mississippi Valley than along the Atlantic Slope is explained not only by the ascent there of the isothermal lines, but by the absence of any such obstacle to their journey as is furnished by the Appalachian range.

* * * *

We have Amia, Lepidosteus, Micropterus (~~Cyprides~~ (Grystes) & various other forms of fishes throughout the Mississippi Valley as far North as the Great Lakes, while in the Atlantic slope they do not pass the James or lower Potomac except as stragglers. — Baird Sill Journ. XLI. p. 87

—Astronomers have discovered that the moon is drawing gradually nearer to the earth, by about an inch every year. They have also discovered that the day is about one hundredth of a second longer now than it was two thousand years ago.

— 28 69 ——

34
190
114
53
35

26

— 28 17 —— Cabd. black

—Astronomers have discovered that the moon is drawing gradually nearer to the earth, by about an inch every year. They have also discovered that the day is about one hundredth of a second longer now than it was two thousand years ago.

that country, particularly between New Orleans and Vicksburg, or between New Orleans and Jackson.

Wm. F. Downs made a trip down the Mississippi, and across the country, to Atlanta in December, as revenue agent of the Treasury. He found the people generally bitter in their apposition to the Government.

Brevet Brig. Gen. Jno. Torbett, after being mustered out of the army, purchased a plantation in Scott county, Mississippi, and travelled through the State generally. He thinks the planters and the

— 28 6q

34
190
114
53
35

26

— 28 1q — Cabd. black

Apr. 22 Placed about 100 ♀ Cynips q. podagra on a smallish Black Oak, 1st tree beyond Paper mill; 2nd tree beyond the 1st lawn & about 50 yds. W. of a large Thorn on the sand-beach.

Also about 70 or 80 ♀ on another Bl Oak trifid near base S. of same road & opposite the 2nd Sycamore on the sand-beach.

Apr. 24 Opened 8 last year C. q. {singuloris / imbricipennis} galls. 6 were empty or =0; 1 a dead Callimome; 1 a plump & healthy looking cynipedous larva, which I wrapped in a piece of paper & replaced in the bottle.

Apr. 27 Hematites a. prunus came out. Out of about 50 galls all but 3 plump & a few shrivelled ones bored, empty & full of frass. ∴ Larva went under sand bottom of jar.

Cut open one q. prunus gall of those that contained larvæ last fall. Larva still there & apparently alive, but cut it in opening gall.

Noticed in the Rabbit cuterebra jar a large round hole bored thro the sand to the surface. Insect preparing to come out.

Dug up in Garden 2 ♀ Arcoda laniigera

New Cedar fungus have now put forth their filaments, which are covered with ferruginous dust = spores & are about ⅛ inch long, & 5 times as long as wide, cylindrical but slightly tapered.

May 9. Thyreus Abbottii came out from larva supposed to be that of Nelsoni. Specimen larva in alcohol.

May 10. Bred Leptis thoracica from white larva found in garden-mould (preserved one in alcohol) Eleven-jointed, anus truncate Σ (profile) W (above) Head much as in Tabanus.

May 11. Elm Tomicus? (from Leas) now in pupa state. Its larva all a few weeks ago.

Will Rabbits Eat Flesh?—A FARMER'S BOY, who writes from Cornwall, Vt., says rabbits will eat lean flesh greedily, and sometimes they will eat fat, which is generally fatal to them. Hence greasing trees prevents rabbits from gnawing them. The best preventive, however, in a country where white birch abounds, is to roll strips of birch-bark around the apple-trees in Autumn. It should be removed in Spring and laid away for future use. This bark is a complete shield against mice or rabbits, as no animal will eat it.

May 15. New cedar fungus have now filaments 1½ inch long ferruginous, 7 or 8 times as long as wide & somewhat tapered. Some had now fallen off, leaving depressed round scars.

[threw away]

May 20. Bred ♂ ♀ 20 — 30 *Magdalinus armicollis* from subcortical larvae which had destroyed a young elm for Mr. Leas. All red elytra & black thorax to most of them; a few red thorax.

May 19. Took 30 Donacia confusa. All either metallic brown or indigo blue, ~~which last smaller & slenderer~~ Blue ones ♂ & ♀ or 88?

May 20. In Cedar fungus terminal ½ of filaments had now withered up & shed their ferruginous spores. Rest ferruginous still.

May 31 gathered off "Jones' fence tree" 5 spong. galls, 4 badly eaten, put twigs in water; 1 not eaten, but off twig in paper. All very young.

Saw on "Pasture-field tree" 1 spong. gall tip of N.E. bough.

same as bred last year

July 6. Found among my q. fragaria galls (Burr Oak) a leaf which had evidently born Q. caducus p. 179. i.e. that grows on Burr oak. Of Q. fragaria found 6 bored, one with a large hole which must have produced a Synergus bred today (found dead) & 5 with small holes & (empty) which must have been bored when galls were gathered by Psenide? (& bred from it a singular blackish moth, pectin. ant.)

× July 8. Found a case attached to oak leaf composed of little pieces of stems (Phryganea fashion). Larva pale chestnut, legless, head + 12 j., 1 short, 2 — 8 bearing spiracles, 3 last distinctly none; tail truncate squarely. Length .35 inch. Case .70 inch. Preserved in alcohol & case dried. *Psyche?* Prophora larva, according to Harris, has legs. Case moored very solidly by silk, & silk inside. Found another afterward

191 July 17. Gall vitifoliæ? Fitch abundant on wild grape NE corner of Jones' field. Contains now, besides mother louse, about equal quantities of eggs & young larvæ just hatched. Galls now about .10 inch diam., pale green, uneven & rippled with a few hairs. Mother-louse alive, a coccus, with distinctly 1-jt. tarsi & ant. very short. Body yellow, round, .03 in diameter. Ant. & legs obfuscated. Beak (at tips) black. Same gall, rather larger, on Clinton grape: rest all the same. No woolly matter among eggs & young larvæ.

Gall Cratægi plica - n. sp. A fusiform pale green fold on lower surface of leaves of Cratægus crus-galli, opening above by a slit, & always generally on one of chief side-veins or on midrib, 1-7 on a leaf. Length .35 - .50, diam .10 - .15 inch. Walls thin & hard; inside polished. Larva single Cecid.[s], sanguineous, with distinct black breastbone, & now .02 long.

always on lower side of leaf & very abundant, a white woolly spot on corresponding place in leaf above

July 24. 2 distinct yellow eggs; no 2 seeds; no dust.

Gall Caryæ-semen a very minute Coccidian [Aphid.] gall on Carya glabra .06 - .10 in diameter, either hemisph. above, ~~pitted below~~ ~~[illegible]~~ below, with an opening nipple like as in Caryæfoliæ. Inside ~~[illegible]~~ 4 or 5 yellowish young Aphidians. Spec. preserved. greenish yellow above, pale green below. The open central nipple whitish! Often a hundred on one leaflet.

July 17 - A gall like holotricha O.S. on upper side of 17 leaf of Carya alba; larva cecid. with clear breastbone hyaline, whitish larger discoloured with the central black internal spot.

Ulmi loculus A Epiphytous fungus. A round gall  on leaf of Red Elm. Inside not hollow but with stalk filaments converging from ○. No larva.

Tiliæ loculus A fusiform gall very like that of wild cherry on Basswood, leaves either above or below. Inside woolly. No larvæ.

— Baird (Sill. Journ. May 1866 pp. 337 - 347) proves that "European birds, especially the land species, reach Greenland by way of Iceland, & N.A. continent by autumnal movement from Greenland".

North Am. birds reach Europe (especially England & Heligoland) by direct course from about latitude 45°.

The resultant motion of surface wind between 32° & 58° in N.A. is from the west.

Iceland is in the latitude of the reverse current from east to west.

— p. 40 of ditto 13 blunders are exposed in Zoological Sketches by L. Agassiz. [by Prof. Dana?]

Ulmi crumena on ~~A~~ July 17. [Epiphytous fungus] Found many fusiform galls similar to those wild cherry on upper face of leaves of White Elm.

Aceris loculus Found many ditto almost ¼ inch on upper face of leaves of Soft Maple. Epiphytous fungus? ~~No larvæ~~ In two specimens found 10 - 20 hyaline young cocci? & in one what seemed a much larger one with longish antennæ, but lost it.

— caryævena Fitch is Coccidian not Aphidian. One opened contained 4 young 1 g. .025 long & many minute

 * Eggs? No powdery dust. On Carya alba? Yes. II

Gall Corni tuba Walsh. A curved (~~generally doubly curved~~) more or less pale green & sub- or purple cylindrical gall slightly tapered toward tip where it is squarely truncate with a slightly flaring tuberculated surface, as of broken off there. 1/2 inch long & .10 inch in medial diameter, hard but fleshy, externally subopaque with some fine white pubescence, internally ~~sol~~ solid except a cell close to its base containing small whitish Cecid. larva with close b.b. Three galls together on lower surface of leaf; a wrinkled space opposite each on upper surface. On cornus, red osier. 1–6 on a leaf.

Cecid. vein-gall (with bastard leaves fringing slit on upper edge of gall) on Crataegus tomentosa (not cms galli) Larva b.b. Y-shaped subround.

= Crataegi limbus. Differs from C. plica (p. 191) in being densely covered below with white pubescence & in the slit above being fringed with a crumpled narrow bastard leaf. Noticed 1 or 2 young coccus? crawling about among the freshly opened galls. Inquilinous? So in Maple Epiphytous fungus, p. 191.

Noticed ants tending Acutalis (large) n. sp. on Amorpha fruticosa? on R. R. bottom, as they do Enchophyllum binotatum.

July 19. (see p. 206) Aceris loculus Acarus? Epiphytous fungus? gall on upper face of leaf
of Soft Maple. Acer rubrum. An irregularly oval coarsely rugose, but not pilose or pubescent, hollow, pale green fleshy gall with thin walls & the interior walls rough with dark mealy looking ~~et~~ branching excrescences. [rosy or darkish pink] Inside scores of very minute oval yellow lice & occasionally a larger one with long antennae & legs, all very vigorous. No powdery dust as yet. With a short robust peduncle &

In 12 out of 20 galls found the [Aphis? ~~Acarus~~] & in one, when cut open, there was a minute Chalcis. Another was bored (by Chalcis?) but empty. A mark but no slit on corresponding part of leaf below. Length about .20

Gall crataegi globulus n. (on different thorn) by being below, length .38 — .45. No fringe above. On from Cr. limbus in having no fringe. July 18 mostly dried up, & those still green were empty, but are no doubt Cecid. Many bored by parasites. [June 17, 1867 mostly empty; inside walls 1/5 diameter of gall. The gall smooth

On June 12, 1868, galls tenanted. Contain 1 to 10 larvae, in company; largest .16 long; tail ∞. Bb. as in T.

Gall Crataegi bedeguar (Cecid. larva orange with Y-shaped breastbone) On the main-rib, generally below, sometimes above, a gall branching out into long slender branching filaments which are green often with rosy tips, the whole subglobular & about .50 in diameter. Like rose bedeguar. On Crataegus tomentosa. Very Rare [On Island.]
contained hyaline-whitish larva .10 long, Bb. ♀ stem very thin

On June 12, 1868, gally
lowered. Contains 1 to
10 [illegible] canoe, in company;
[illegible]. 16 tons; tail ω.
Bbs as in [illegible]

* (see 99?). No powdery dust. On Carya alba? ? yes. II

Gall Corni tuba Walsh. A ~~specially fo... curved~~ more a leaf curved pale green & sub- or purple cylindrical gall slightly tapered toward tip where it is squarely truncate with a slightly flaring tuberculated surface, as if broken off there. 1/2 inch long & .10 inch in medial diameter, hard but fleshy, externally subopaque with some fine white pubescence, internally solid except a cell close to its base containing small whitish Cecid. larva with close b.b. Three galls together on lower surface of leaf; a wrinkled space opposite each on upper surface. On Cornus, red osier. 1–8 gall on a leaf.

Cecid. vein-gall (with bastard leaves fringing slit on upper edge of gall) on Crataegus tomentosa (not cross galls) Larva b.b. Y-shaped subround.

= Crataegi limbus. Differs from C. plica (p. 191) in being densely covered below with white pubescence & in the slit above being fringed with a crumpled narrow bastard leaf. Noticed 1 or 2 young coccus? crawling about among the freshly opened galls. Anguilmous? So in Maple Epiphytous fungus, p. 191.

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In 12 out of 20 galls found the [Aphis?] larvae & in one, when cut open, there was a minute Chalcis. Another was bored (by Chalcis?) but empty. A mark but no slit on corresponding part of leaf below. Length about .20 inch. with a short robust peduncle &

Gall Crataegi globulus n. sp. differs from Cr. plica (on different thorn) by being subglobular, woolly below, length .38 – .45 [.60 1867] inch, diam. .20 – .37 inch. No fringe above. On Crataegus tomentosa. Differs from Cr. limbus in having no fringe. July 18 mostly dried up, & those still green were empty, but are no doubt Cecid. Many bored by parasites. [June 17, 1867 mostly empty; inside smooth, walls 1/5 diameter of gall. The gall]

Gall Crataegi bedeguar (Cecid. larva orange with Y-shaped breastbone) On the main rib, generally below, sometimes above, a gall branching out into long slender branching filaments which are green often with rosy, the whole subglobular & about .50 in diameter. Like rose bedeguar. On Crataegus tomentosa. Very Rare [On Island.] contained hyaline-whitish larva .10 long, b.b. ... stem very thin

194 Gall Crataegi vermiculus n. sp. on Cr. crus-galli. A fold in the leaf below (not above) & not confined to a vein, accompanied on the upper side by a much elevated crinkled glossy dark green tuberculate much sinuated very pale green ridge. Scarcely fleshy as yet inside, but in small dark discoloured elongated hollow in the middle scores of very minute hexapod pale rosy lice, 4 times as long as wide, not very vigorous. July 18. on Island.
Sometimes 3 or 4 on a leaf, oftener single. looking like a wriggling worm or snake, whence the name.

+ July 19. Found a yellow Chalcis? pupa in caryaevenae gall. Mother lice gone, but still a few eggs left.

— Out of 20 or 30 S. pomum galls (gathered on Island) all contained Nematus larva, none Anthonomus larva.

— July 19. Noticed where a sprout of Carya glabra grew among C. alba that it bore a few caryaecaulis galls.

— Ash on Island is F. sambucifolia (BDW)
Cornus two sp. only, stolonifera & paniculata
(Probably C. asperifolia ~~(alternifolia BDW)~~) (Dr. P.)

— Crataegus crus galli — gall Cr. plica, Cecid.
— Cr. vermiculus {coccid?? aphid??
— tomentosa gall Cr. limbus Cecid.
— Cr. globulus Cecid?
— Cr. bedeguar Cecid.
— Cr. vermiculus {aph.?? coccid??

July 20. 20-footed larva (Nematus) on Birch 1 inch long; often sits [illegible]: pale glaucous green: a double (transverse) row of black dots on each side. (i.e. 2 & 4 on each segment) head black. Legs black outside towards tip & a short black vitta above every proleg & leg. & indistinct spot above every Joint 12 1 lateral & one terminal spot only. Anal legs not very obvious. 195

+ July 21. Eggs & young lice (& old ones) still in caryaevenae. In one found 5 or 6 Thrips (preserved). In another a small orange syrphidous larva. In others 1 or 2 yellow Chalcid? larvae & 1 pupa.

S Eggs still in viticola. Found in one 1 orange syrphidous larva & 1 ditto pupa. In another 4 cocoons & lot of eggs. Bred 2

— July 20 Found 1 caryaecaulis on C. glabra growing in middle of C. ~~glabra bush~~ alba bush.

Gall Fraxini verruca [aphidians?] Epiphytous fungus on Fr. sambucifolia (Island, S. side)
July 31. A pale green ~~yellowish green~~ irregularly spherical swelling imbedded in the plane of the leaf & not confined to a vein, 1–9 on a leaflet, sometimes rose-red above, smooth above, below opening in a jagged brownish wartlike more or less open [crater-like] ~~mouth~~ or sometimes mouthlike, diameter .10 inch or less. Inside with yellow mealy rough & spongy transverse excrescence. Found in 1 a Thrips pupa sometimes with much excrescence. Found in 2 or 3 a 4 or 5 a single, very active & small hyaline Aphidian. acarid? Opened 30 [40] galls

Gall? Negundinis pisum. A white globular subsessile gall .10 inch in diameter [opaque smoothish or somewhat rugose] on the midrib above of leaflet of Neg. aceroides: 2 only on 1 leaflet, a very minute hyaline Aphidian? many about in each. {Aug 5. pale green outside with white bloom, opening on one side of rib below with a slit. No larva. Dark coarse filaments inside.

Ulmi ~~crumenae~~ crumenae fungus on true White Elm R. R. bottom. July 20.
An irregularly oval or pyriform pale green, gall on the upper face of leaf, 1 – 8 on a leaf, with a short stout peduncle springing (often but not always) from midrib or one of principal veins; with a few white hairs. (opposite side a small puckered spot.) Inside with dense filaments stronger clavate at base radiating from the thin external shell ~~& some of them~~ white some of them occasionally pink. Opened 10 & found no living insect. Very like Aceris loculus. Length .25 & under! (Inside wall of gall rarely crimson)

Rhois ~~[illegible]~~ stomatus July 20 – on Rhus typhina Staghorn Sumach – grows from the midrib of leaflet, rarely from one of ... 1 – 3 on a leaf, pyriform, small ...le, green & downy now. Largest about

...ylum "Colden" Probably = O. S. No. 23

Vitis cordifolia

...legna (on one in yard.) A smooth, green ...val or pyriform enlargement of the leaf-stalk, generally ... the leaf, rarely on the small twig bearing the leaf, ...ny, .20 – .30 in diameter. Polythalamous; ...ecid. ~~pale~~ greenish hyaline with breast-bone ...sverse black dots. †

...ula. [Noticed 1 aphidian vigorously emerging out ...opened green gall.] An irregularly round or ...al, single pale green gall, bisected by the plane of the leaf, not confined to veins, flattened above & below & generally tinged with rosy on the O

above & below, both surfaces coarsely reticulate & with 4 or 5 strea radiating from a small central depression. Mostly now burst open below (like g. pilula) & the cap of the gall fallen off leaving only a rough brown surface O, the upper surface entire but changed to a deep blood-red color. Found 1 cecid. larva orange, oblong short & bb. ·· & 3 or 4 callimome & 1 or 2 other chalcid. in green galls, one in each. ∴ monothalamous. 1 – 20 on a leaf, 2 or 3 often confluent. Diam. gall .13 – .30 inch.

Gall Tiliae-vena. a simple enlargement of a main-vein .20 long & containing 1 elongate white cecid. larva, breastbone ·· .10 inch long.

+ Tiliae loculus – epiphytous fungus – like Aceris loculus — no larvae in it. 1 specimen

Juglandis caulis (Black walnut) a solid fleshy (oval irregularly) subsessile swelling .35 – .42 in. diameter clasping the leaf stalk or midrib of compound leaf, internally grass green, externally except next leafstalk with a dense opaque reddish brown woolly-pubescent surface like that of peach. No larvae, but indistinct incipient cells? next outside. Cecid.? gall?

– Juglandis loculus. on Bk walnut. many specimens. Much like aceris loculus; inside white woolly fibres. No insects. Epiphytous fungus? On upper face of leaflet.

Quercus verrucarius, on Q. tomentosa July 23; = that on Q. cinerea galls; & larvae the same. Dascyphis ...

...not so acute as the opposite side

†Gall on twig April 26 woody, with a
long internal hollow containing 3 larvæ
.75 long, .25 wide. Larva yellowish
3½ times as long as wide, Pb-black,

 Ulmi ~~cremmeus~~ fungus, on true White Elm. R. R. bottom. July 20.
An irregularly oval or fusiform, pale green, gall on the upper face of leaf, 1 – 8 on a leaf, with a short solid peduncle springing often but not always from midrib or one of principal veins; with a few white hairs; opposite side a small pubescent spot; inside with dense filaments strongly clavate at base radiating from the thin external shell ~~& some of them~~ white, some of them occasionally pink. Opened 10 & found no living insect. Very like Aceris loculus. Length .25 & under.
(Inside wall of gall rarely crimson)

Rhois ~~[illegible]~~ stomatas July 20 – on Rhus typhina Staghorn Sumach grows from the midrib of leaflet, rarely from one of side-veins, 1 – 3 on a leaf, pyriform, small end basal, green & downy now. Largest about 3/4 inch long.

Zanthoxylum "Colden" Probably = O. S. No. 23

July 24. gall Vitis silegua Vitis cordifolia (on one in yard.) A smooth, green shining oval or fusiform enlargement of the leaf-stalk, generally close to the leaf, rarely on the small twig bearing the leaf, .50 – .85 long, .20 – .30 in diameter. Polythalamous. Larva Cecid. ~~pale~~ greenish hyaline with spindle-shaped breast-bone = 2 transverse black dots. †

gall Tiliae pilula. [Noticed 1 aphidian vigorously emerging out of freshly-opened green gall.] An irregularly round or oval, sessile pale green gall, bisected by the plane of the leaf, not confined to veins, flattened above & below & generally tinged with rosy on the O above & below, both surfaces coarsely reticulate & with 4 or 5 striae radiating from a small central depression. Mostly now burst open below (like g. pilula) & the cap of the gall fallen off leaving only a rough brown surface O, the upper surface entire but changed to a deep blood-red color. Found 1 Cecid. larva oblong short orange, & 80. ∴ 3 or 4 callimome & 1 or 2 other chalcid in green galls, one in each. i.e. monothalamous. 1 – 20 on a leaf, 2 or 3 often confluent. Diam. gall .13 – .30 inch.

Gall Tiliae-vena. a simple enlargement of a main-vein .20 long & containing 1 elongate white Cecid. larva, breastbone ⠒ .10 inch long.

+ Tiliae loculus – epiphytous fungus – like Aceris loculus – no larvae in it. 1 specimen

Juglandis caulis (Black walnut) a solid fleshy (oval irregularly) subsessile swollen .35 – .42 inch diameter clasping the leaf stalk or midrib of compound leaf, internally grass green, externally except next leafstalk with a dense opaque reddish brown woolly-pubescent surface like skin of peach. No larvae, but indistinct incipient cells? next outside. Cecid? gall?

– Juglandis loculus. on Bk Walnut. many specimens. Much like aceris loculus; inside white woolly fibres. No insects. Epiphytous fungus? On upper face of leaflet.

gall Crataegi vermiculus, on Cr. tomentosa July 23; = that on Cr. crus-galli, & larvae the same. Diastrophus? gall? 5 but so as united on the opposite side

198 Gall Caryae semen p. 198 (Carya glabra bottom of grave-yard hill.) Besides the elongate yellow, mother-coccus & the eggs, there is a very active hyaline hexapod larva in some of these galls. Thepulmonar? No joints to body? allied to Acarus? ^No = young coccus Found in one a largish hairy Chalcid. larva, with snapping jaws & pointed tail. Found in one 8 or 9 young coccus, elongate yellowish & very active. Mother coccus in another roundish, yellow & dull. Evidently a coccus. In another 8 or 9 young coccus & mother. Mother deeper yellow.

Gall Caryae pilula. on C. glabra. abundant but local. A globular, pale green gall on general surface of leaflet, 1–9 on a leaflet, .10–.20 inch in diameter, bisected by plane of leaflet, upper face a little flattened, lower with a small nipple. Both surfaces with a reticulate appearance from veins darker & very slightly depressed. Mostly now turned blackish, & lower nipple burst widely open by a decussate slit, so as to show 4 angulated blackish lobes tipped with white. Those not burst contained now a chalcid. larva, hairy & with black jaws & wriggles much. (20 galls thus) Must be cecid. gall, & larva gone underground.

— Mr. A. Merrell, Commercial College, Davenp. knows of a breed of tailless cats in N.H. (young Gow)

only on tree E. of road to Grave-yard & S. of large Cottonwood there—

July 25 Gall Carya patella. Stebey. Cecid. ?? on all. C. alba. A smooth, greenish-white irregularly hemispherical gall .15 or less in diameter, the 0 of hemisphere attached by a point to lower surface of leaf, the other surface excavated with a large conical nipple in the middle tipped with brown, rising often much above the hemisphere; edges of which are crinkled & form an acutely margined ^form a circle surrounding the central nipple. Inside a smooth cell, but no larva yet visible. Sparse, 1 or 2 on a leaf, among numerous holotricha? galls. No. = Epiphytous fungus.

[Gall aceris localis = fungus. Coccidae? ^Found one small gall smooth inside, no mealy processes, & no larva. In one gall very many elongate, sluggish, pink lice like those in Crataegi vermiculus. Of 20 galls opened, 11 contained larvae. Found a singular Coccidae?? at large on maples leaves. Runs fast. Pale rufous. Disk of back largely brown. 3 lateral equidistant tiny white spots & another over head. an irregular white central patch. Ant. moderate. Mouth very strange. Thepulmonar on ac. localis? [Tarsi connate with tibiae & 3-j. joints connate??]

Found 1 small caryaecaulis on large isolated C. dalm. & several on another, some on young leaves, only partially developed at top of young shoot. Slit decussate.

— Sal. trapae. burrowing in head. Lep. larva. .10 long grass-green, 16 footed, head black emarg. behind ◯, an obsemicircular pale brown plate on 1st. A few long hairs on anal end.

— a large one (killed) .25 long, differs in head being square behind, plate on 1st. black & young head & in legs being black. Hairs same in front.

200) Sel. Brassic. Lep. larva No. 3. Pale grass-green, with rather sparse white hairs. Head greenish white, a dark green dorsal line & a subdorsal whitish line. 16 feet, normal. Length 1/2 inch. not tapered at either end, & 8–10 times as long as wide. Among outer leaves, not burrowing in heart.

Gall Vitis fusus. on Vitis ~~Labrusca~~? cordifolia. A roundish mass 1 1/4–2 1/2 inches in diameter, of 10–50 opaque, woolly-pubescent, fusiform or sometimes flattish-oval green galls, each .50–.75 inch long, springing from a common centre at the place for a bud, the whole evidently a deformation of a bud, each gall representing a leaf. Occasionally an undeformed leaf with its peduncle puts forth from the common centre, bearing at the insertion of peduncle with leaf a couple of galls. Each gall monothal. & Cecid. See last year.

July 28 Fungus aceris crumena. On sugar-maple. A pale green elongate hollow fusiform fungus, 1–26 on upper face of leaf, .10–.25 long, & 7 or 8 times as long as wide, a slight depression slightly discolored on under side of leaf opposite to each. Inside roughly granulated. Tip of some blackish, & a few already blackish or reddish brown & apparently withering, but not burst open. Very abundant & not local. Two only out of 20 opened contained some larvae as in aceris loculus.

Gall carya pomum. On C. alba, always on upper face of leaflet 1–10 on a leaflet. a globular opaque ~~pale~~ rather dark green gall with a slight brownish terminal nipple, the whole clothed with dense long erect white hairs. A few already brown. Inside polished & shell thin but rather hard. Diam. .07–.17 inch. Attached only by a small portion of globe. Larva robust, whitish-hyaline, .05 long, breastbone  , internal dash yellowish. Cecid.

Gall carya tubus[?]. On C. alba, often on lower face of leaflets (more or less depressed). a ~~pale~~ green smooth elongate conical gall .15–.24 long, the base flaring & spreading out on face of leaflet in 4 or 5 irregular teeth, tip blunt & split a little way down into about 2 or 3 divisions. Inside fleshy, solid, except a minute cell at base. Cecid.? Differs from sanguinolenta C.S. in color & in the flaring base.

Fungus tiliae loculus. Externally much like Aceris loculus, but internally full of hyaline whitish linear fibres growing from external skin. Out of 10 opened only 2 contained a larva as in Acer is loc. but one only in each. [All the above fungus examined with Stanhope lens carefully.] On upper face of leaf, 1–8 (1–4) on a leaf, sometimes on lower face, not very abundant.

Gall? tiliae batatas. On twig a sessile oval sub-scabrous potato-like gall, partly grass-green, partly brown-scabrous. .65 long or less, & about .40 in diameter. Inside white, fleshy, two larvae or cells. [April of following year they had burst open in irregular slits & were fully[?] ... with powdery matter ... of smooth oval cells. Specimens [illegible]

P. Gall? Fraxini basium. On Fr. americana. A mouth-like greenish white prominence on lower face of leaflet, about .10 long, & projecting .02—.05 from leaflet, the lips white-woolly-pubescent, sometimes closed, sometimes open in an irregularly oval form: inside hollow; often but not always on one of principal side veins, always on a vein of some kind, never on midrib. Opposite side a very pale green smooth slight prominence. Inside not smooth but granulated. Cecid? No larva. 1—4 on a leaf.

Gall carya boletus. On C. alba. A depressed-spherical (a spherical or elongate oval) coarsely granulated greenish white or rarely pinkish gall on lower face, .15—.23 in diameter, attached to the leaf like a mushroom by a very short but robustly cylindrical peduncle; a minute nipple at tip. Inside smooth but finely granulated; a large hemispherical prominence opposite the peduncle. Shell thin & soft. No larva in 3 cut open.

Fungus? Ulmi loculus. On U. fulva. 1 spec. like Acer loculus & not opened.

Gall Vitifoliae. Mostly preyed on by Syrphidae (larva orange with long slender pseudopods & walks as well as any lepid. larva. A few still contain cocci. Eggs & larva.

Sal. Wasp-gall. burrowing in heart. Larva of Anthom. Lepidellatus .07 long, yellowish mostly curdy white above. Twice as long as wide, curved in ◠. Head. Nose yellow, mandibles brown black, robust, equilaterally △, with subterm-

tooth, ~~with ..... curved term. tooth.~~

July 27. Sal. Brassic. Lep. larva No. 4 (saved) Length .40 inch. not tapered, 8 times as long as wide. Pale greenish yellow. Head glossy rufous. 1st. ft. glossy brown black separated by whitish line from head. 5 pale brown vittae (narrow). Two dots lengthways on 2 middle interstices in each ft & 1 on outer interstice, each with a long white hair. Legs blackish. 16 legs, normal. Spins a thread, & runs backwards & runs very fast. Tortrix?

July 27. Gall carya tuba. on C. alba. Differs from C. tubus (p. 201) in being hairy.

Gall? Pruni crumena. Acarodous On upper face of leaf of wild plum, 1—60 in number, an elongate hollow ~~fusiform~~ blunt-tipped opaque gall .10—.15 long, 4 or 5 times as long as wide & constricted at base with a few erect hairs. Color very pale green tinged often with rosy ~~a few long~~. Inside rough & rosy with scores of very minute twice as long as wide elongate ~~.....~~ white lice, very sluggish & 5 pale rosy elongate eggs. Ten opened all had lice. ~~Aphidian? or Coccus?~~ a little powdery dust seemingly among the lice. Many (yellow) crawling on leaves outside. Of 10 opened all contained lice.

Gall? Cerasi crumena. On Prunus serotina, ~~prominence~~, .10—.34 long, & 6—9 times as long as wide, 1—17 on a leaf almost always on upper face, rarely below, a very elongate, subclavate hollow opaque gall, without any hairs; basal part sometimes solid & slender like peduncle of leaf, often hollow. Color very pale green. Inside with irregular rough pale reddish brown filaments, & a few very minute whitish hyaline sluggish lice. Tip end when mature, bursts irregularly open laterally. It turns brown. A few yellow lice crawling on leaves outside. Of 11 opened, 9 contained lice.

Gall Populi globulus on Populus [tremuloides, quaking asp] grandidentata

a fleshy hollow very pale green gall upon or on one side of midrib of leaf, 1–5 in number; inside hollow & opening with a slit below. Aphid? Diam. .10–.20 inch, round or oval.

Gall? Pyri anomia on P. coronaria (Crab) A irregularly round yellow discoloration ~~& thickening~~ on both sides the leaf about .25 in diameter, the centre a little depressed above & with 10–30 minute acute black tubercles; beneath a thickening in the form of a ring with numerous round brown ~~feet~~ opening tubercles, flat at tip & each with a corona of brownish white hairs [or a mouth]. Inside fleshy but no larvae seen. with minute ~~with~~ cells opening by a mouth fringed with hairs ~~the tubercles below [illegible]~~ ~~with [illegible] whitish cells~~ when cut open. 1–6 on a leaf. 1 plane of leaf

Aug. Cut open last year Q. erinacei galls. Many C. q. erinacei (apterous) In one gall found 2 cynips larvae, both plump & 1 certainly alive. In a 4-celled gall, 1 c. q. erin., 1 such larva & 2 empty cells. In 2 3-celled ones, 1 larva + 2 = 0. One 2-celled, 1 larva + = 0. In one one 2 larva + 1 = 0.

Gall? Populi semen. An irregularly hemispherical prominence on upper side of leaf .05–.10 in diam. opening below by a very wide O mouth. Inside granulated fibres. Color outside green fading to blackish. On grandidentata & quaking asp. July 31. No insects. Acarus? gall

+ Aug 2. Salicis vermiculus In Cr. ~~[illegible]~~ larvae as before. Elongate, twice or 4 times as long as wide, legs in front, [illegible]

rather than walls.

+ Gall Vitifolia Fitch. Old coccus still in a gall with numerous eggs. Tarsus distinctly 1-jointed. length body .02 inch, almost motionless. Young louse in a gall thrice as long as wide clearly hexapod, eyes distinct, antennae [illegible], shorter before eggs. In one gall 3 old half-dead lice & a dozen eggs.

+ In old louse both tarsi plainly 1-jointed. 3d joint short 1 young lively louse [illegible]

5 Gall caryaevena Fitch. In some young lice, hexapod, eyes black & before eggs, antennae. In others eggs. In some yellow Chalcid pupa, still some eggs remaining. Old louse .015 long; tarsi apparently 1-jointed. Clearly a coccus. Ant. shorter than legs, 3-jointed, 3d longest. (In Aphis larva? on surface of leaf has 1-jointed tarsi.) Old lice round, young twice as long as wide. A hyaline white acaroid in one, .01 long, ant. longish, but only 6 legs (certain). In another 2 or 3 much smaller & a great deal smaller than coccid eggs. Must be inquilines. (In one gall a good dozen of young lice)

+ ditto eggs.

o Fraxini [illegible] (Fraxinus p. 202) No larvae or insects, except from one a large Thrips larva came out.

? Caryae semen. Larva coccidae? .01 long, 3 or 4 in a gall with some young lice; In one gall eggs (coccidean) Ant. 3-jointed, 3d much longest

So in vitifoliae & caryaevena.

Verbascum lychnitis (white mullein) hybridizes freely with V. thapsus (common Mullein) in a state of nature (both introduced from Europe) Gray's Man. p. 283.

Aug 3. Opening caryaevena gall ran out 2 or 3 hyaline acari 6 legs, ant. long about 5 or 6-jointed, no segments to body & no distinct head. Out of another came 2 Thrips imagos.

+ Aug 4. Tiliae loculus (see p. 201) length .10–.25, oval sometimes 2½ times as long as wide or roundish, with 6 or 7 long striae, tip generally split a little [illegible] several tubercles. Of 520 opened, only [illegible] contained a single Acarus

which was precisely like those (inquilines) escaped from other galls, e.g. caryaevena.

Aceris loculus (p. 193) Subrotund, peduncled. Largest now only .15 long. Acarus 3 pair of legs close in front, 1 pair close behind, hyaline whitish 2 1/2 times as long as wide, very young pale & 3 times as long as wide, rosy & sluggish. When crataegi vermiculus? Older walk pretty fast. Of 22 gall opened & carefully examined 8 (green) contained hyaline larvae, 1 (green) pink larva, 4 black & 1 half black = 0, & 7 (green) = 0, 1 (black) pink larva. Many galls now (say about 1/5) withered & turned black.

Gall Populi osculum (may be = P. globulus p. 204) P. P.? certain vermiculoides Aug. 3. An ovate subglobular swelling, tip truncate excavated & with a mouth-like slit at bottom of excavation diam. .1 inch, on one side of leaf stalk close to leaf. Color outside pale green, smooth. Inside fleshy, pale green with a small hollow, containing in 1 gall a chalcid pupa. Byrsocrypta? 2 specimens.

Aug. 3. Found many Rhois tomatus on Rh. glabra W. of Dunlaps' pell, just beyond fork of road leading W, right hand fork. (some brown roughness.) Larva bright yellow, ant. 4-jd., 1 = 2 = 3 = (1/2) 4 Tarsi 1-jd, not longish

Aug. 5 Aceris crumena. Of 10 opened, 9 contained larvae, 3, 30 or 40. 

Gall Aceris areus n. sp. (Cecid.) A pale green swelling semicircular in outline or irregular on lower face of one of side veins of a leaf, above flat & a very oblong closed slit. Some long white hairs below. Inside hollow only 1 or 2 on a leaf & not abundant

shell smooth inside, thin & hard. Length .10 - .13 Larva dark yellow with lateral & ventral curdy white markings. B.B. linear, scarcely clove-shaped. Body 2 1/2 times as long as wide. On Acer saccharinum.

Gall Ulmi semen n. sp on U. americana. An irregularly spherical pale green opaque swelling bisected by plane of leaf - & with some long white hairs, below hollow excavated ~~with a central nipple~~ so as to resemble a very shallow crater with robust walls, inside hollow, rather rough. 50 or 100 on a leaf, many confluent. Diam. .05 & under. Five or 6 very minute hyaline acarus larvae inside, 4 times as long as wide, sluggish & like those of Cr. vermiculus.

Fraxini bursum. Of 13 opened, 2 contained scores of pale pink larvae like those of Cr. vermiculus. Mouth of many now tightly closed.

Crataegi vermiculus (Cr. tomentosa) (black & smoother inside) of 10 opened all contained scores of pale pink larvae as before, but of several seemed to run a very lively minute hyaline Acarus when opened. Mother-mite?

Juglandis loculus on Black walnut. Almost always on upper face of leaf, a woolly-white spot on opposite side, an irregularly globular or oval rugose gall with a short robust peduncle .10 - .18 long, pale green, ~~& rugose~~. Inside with dense white & pinkish curly filaments filling whole shell. 1-4 on a leaflet. A few already black at tip. Of 12 opened only 2 contd each a single hyaline acarus; ~~ant.~~ legs not very long.

Ulmi crumena on U. americana. Mostly now turned black. An irregularly globular or short-oval rugose gall on upper face of leaf. .10 long, or less. 1-15 on a leaf. Inside with ...

 or pale coarse crinkled filaments, not very dense. Acaridan
In 15 opened no larva, except in one a dark (Thrips?) larva, lost.

Aug 7. Fraxini verruca. Opened 17. 8 = 0, 4 contained a single long-cone hyaline acarus; 2 hyaline acarus with black internal disk; 2 brownish acarus with black internal disk; & 1 a legless? oval hyaline body?

Ulmi crumena on U. americana? North of U. gallifera on Island. Agrees with description p. 196, but 1 – 5 5 on a leaf. One .30 long, & generally fusiform. Thrice as long as wide. Of 25 galls opened 10 contained occasionally many minute, sluggish larvae, thrice as long as wide, whitish hyaline. [NB. Found a single small withered gall on "U. micola" elm on Island.]

Aug. 9 Ulmi crumena (on true U. americana. Some galls .30 long.) Of 10 opened, 5 contained larvae, chiefly those pinkish inside. Skin inside & bulb of hairs pink more or less in these.

Ulmi loculus (on U. fulva) Subglobular or but slightly oval, with a stout very distinct pedancle, whole .15 long or less, & tuberculose with dense short white hairs. Inside no clavate hairs, but irregular mostly deep dull crimson irregular excrescences. Of 15 opened 9 had sluggish whitish hyaline larvae & 1 showed 1 lively long-horn acarus (white hyaline) & 1 of these showed 2.

Crataegi plica. Some now .70 long & .17 wide. Larva yellowish (with well cordy markings) pseudopod on 1st joint back. .10 long, b. b. black Carcul larva & pupa inquilinous (cecid. destroyed) in two or more galls a hairy larva (= chalcid? Carcul) attached externally to Cecid larva. In one gall a cecid. larva b. b. uniform. In one a Diplosis egg? A few hairs on outside of some galls. In two galls parasite & cecid. larva at opposite ends of gall; usually

Cerasi loculus crumena. Some now .45 long. Of 8 galls opened 2 only contained larva, both numerously, 1 subachoe ones twice as long as broad one sluggish ones thrice as long as broad.

Caryae spina cecidom. n. sp. (on C. glabra, oftener on upper than under side of leaf, 20 times to leaf, generally more or less procumbent) an elongate conical gall .38 long or less, .10 in diameter, clavate more or less in a bulb at base & contracted at extreme base, covered with dense white pubescence. Shell hard & thin. Inside cell extending almost to extreme tip, polished. Larva .05 long hyaline with yellow stomach breastb. blackish, shape squarish. In many no larva. Color pale green, tipped rarely with brown. Often a little curved.

Persicoides? O.S. On C. glabra. Diameter .15 & less. ~~Shell hard & thin~~. Always on lower face, two on upper side. Like gall on C. alba. Shell thin & hard. Inside smooth. Larva milk white – hyaline 2½ times as long as wide, 1/8 inch long, b. b. brown or slightly linear { A single one which was brown strongly pubescent (* specimen) contained a roundish yellow larva. Ibt

Tubicola? O.S. On C. glabra. Length .12 & less. Some just emerging from basal cup. None brown yet, as are most on C. alba. Shell hard & thin. On under side of leaf always

Caryae cylindrus n. sp. cecidom. Larva single, whitish, On C. glabra a cylindrical tube slightly enlarged in the middle, barrel shaped, rarely brownish or smooth pale green gall, .10 – .12 long & 2½ times as long as wide; tip squarely truncate with a pointed ~~with a~~ tubercle in the middle tipped with a blunt brown point. On lower face of leaf, rarely above. & tubicola (green) by having no acorn like cup. Shell thin but hard. 14 specimens intermediate under notice

On Caryae glabra n. sp. { Like persicoides, O.S. but much longer hairs. Inside nearly solid? Lower face of leaf. Such gall in C. alba

210) Cynipsea? o.s. On C. glabra. A small elongate swelling on one of the side-veins (as many as 4 on a leaflet, pretty close together sometimes). .20 long, .37 [illegible], causing an arching ~~upward~~ of the vein above & a depression below, with some crinklings both side. Cell long, smooth. Larva only .02 long, but manifestly cecidom. Sturdy markings & Bb. black (•). Often some brown scabrities on the gall. Texture hard fleshy, not a mere shell.

of the Kansas Settlers' Society of that place. Carried unanimously.

The Secretary offered to advance the whole available amount subscribed in the Books of the Society out of his private funds for the above object. The offer was accepted unanimously.

Moved by Jos. W. Brackett that in case it should be necessary for the Secretary to go personally to Iowa City for the above object, his expenses there & back be borne by the Society. Carried unanimously.

On motion adjourned sine die.

, President

Benj. D. Walsh, Secretary.

Carya laminea (~~patella~~) n.sp. On C. alba (~~glabra~~). A flattened plate-shaped pale green rarely just tinged [illegible] gall (gall tinged with purple) on lower face of leaf, rendering the leaf a little rounded & attached by a point, opposite side more or less excavated, but without the circular edge of the plate being at all acute, with a minute brown nipple in the centre. Opposite side of leaf a surface below, with exceedingly short dense erect pubescence, a hemispherical pale green or rarely blood-brown protuberance, half the diameter of gall, which is .15 or less. Inside hollow, the upper & lower shell almost touching, rarely solid & fleshy. No larva yet visible. Not sticky ≠ C. patella & C. poculum & also by rounded edges. One large gall .21 wide is sticky.

Carya patella. Larva now whitish hyaline (.04 long, robust). B.l. Gall hard but fleshy.

Carya poculum. n.sp. Larva whitish hyaline, .06 long, robust: Bb. † dagger shaped. A pale-green gall, always on lower face of leaf, (on C. glabra) with a short stout peduncle, hemispherical, the ○ towards leaf, other face deeply excavated with a central blackish minute nipple crowning a small tubercle, the ○ thin & acute & inflexed [sketch] so as to point to the nipple with some plaits & rugosities. Diameter .16 or less. Always sticky.

Carya boletus. Some now .26 in diameter. No larva in two cut open. Shell very soft, internal cup very large [sketch]

Carya tuba. Two sanguineous. Not very hairy.

~~Carya patella~~ laminea n. sp. On C. ~~glabra~~ alba. A flattened plate-shaped pale green rarely just largest galls tinged with purple gall on lower face of leaf, near the leaf a little rounded & attached by a point; opposite side more or less excavated, but without the circular edge of the plate being at all acute, with a minute brown nipple in the centre. Surface below with exceedingly short dense ?? pubescence. Opposite side of leaf a hemispherical pale green or rarely blood-brown protuberance, half the diameter of gall, which is .15 or less. Inside hollow, the upper & lower shell almost touching, rarely solid & fleshy. No larva yet visible. Not sticky ≠ C. patella & C. poculum & also by rounded edges. 3/5 One large gall .21 wide is sticky.

Carya patella. Larva now white-hyaline .04 long, robust. B.b. |
Gall hard but fleshy. Galls into cup [illegible]

Carya poculum. n. sp. Larva white-hyaline, .06 long, robust: Bb. ✝ dagger shaped. A pale-green gall, always on lower face of leaf (on C. glabra) with a short stout peduncle, hemispherical, the ○ towards leaf, other face deeply excavated with a central blackish minute nipple crowning a small tubercle, the ○ thin & acute & inflexed ⌒ so as to point to the nipple with some plaits & rugosities. Diameter .16 or less. Always sticky.

Carya boletus. Some now .26 in diameter. No larva in two cut open. Shell very soft. internal cup very large

Carya tuba. Two sanguineous. Not very hairy.

) Carya o.s. Larva Bb | [C. alba?]

— Populi semen or P. grandidentata? S. side of Davenport's field, E. of Case's House. Of 5 cut open one contained a Acaroid imago, yellowish with 5 or 6 dusky spots. Rest = 0.

Aug. 11 Carya holotricha? ~~boletus~~ & knobbly & shady like boletus but inside spherical. Found a small Lepid. larva evidently entered thro' external hole. In another found a bright yellow larva .08 long with black Bb ■ [C. alba?]

— Caryacola o.s. shell now = 1/3 – 1/4 cross diameter of gall. Larva whitish, Bb. | [on C. alba?]

×| — Carya boletus. No larva: many galls opened.

— Holotricha: mostly no ~~galls ope~~ larvae yet, several but very minute larvae; another Bb pale & translucent. Two yellowish Bb {one whitish}

— Gall vitis tendriculus [read tentaculum]. Coccidan. On tendrils & occasionally leaf-stalks of a thin-leaved German grape from Bloomington, Ill. The part ~~irregularly~~ enlarged to 3–6 times its natural diameter in an irregularly oval shape, flared lengthways of the part, with some rugosities but no pubescence. Inside an irregular cell containing 2 or 3 cocci similar to those of vitifoliae but 1/3 smaller (diam. .02 to .03) Color deep yellow; many yellowish eggs .01 long. On the tendrils color is changed to lake red, but not on leaf-stalk. 3 or 4 galls often in the length of 1 inch, a few almost confluent. Mostly now widely burst open laterally but a few still closed. Texture fleshy, but pretty solid.

Aug 12. Carya mamma n. sp. Cecidom? On C. glabra. A slight subcircular fleshy swelling & thickening of the blade of the leaflet, the natural color above, below several shades paler, with the veinlets as dark as natural, the protuberance below much larger than that above & terminating in a nipple-like point. Diam. .20 or less. Thickness about .05, with no smooth oval cell now lined with cocoon. In two were larva, but eaten open. In two Chalced imago. In two common acaroid imago (White hyaline). Rest mostly bored & empty.

[Carya pilula tree had only 20 or 30 fresh galls]

— Carya cocon n. sp. on C. glabra. An oval pubescent pod-like or rather cocoon-like gall, on lower face of leaflet, 2–3 times as long as wide, when young & small roundish. Color from pale green to pale brown. Shell thin hard & brittle, inside rough, with some excrescences. Acarian? or Cecidomyian? Of 16 opened, 2 (large oval) contained a single acarus imago, one of them also 8 Kephedrium eggs & one two such eggs. (Galls opening above by a minute round hole.) And near one or two more acari were running when opened. 9 oval galls were empty; 5 small empty. Attached by a single point only at one end, & always procumbent strictly. * C. cylindrus by rounded tip

— Holotricha on C. glabra. (no larva) → 20

| Carya semen. Mostly empty now & open below. In one found a single Coccide egg out of 20 or 25 opened. Out of 2 ran a single white acaroid imago.

5| Carya cylindrus. 1 on C. alba → B brown.

— Sanguinolenta? o.s. on C. alba. 6 on same leaf, but with longish rather opaque pubescence.

| The very long hairy ~~holotricha~~ persicoides on C. alba are softer & smaller: probably immature.

214/ Many thrips (larva) in many of these Hickory Galls.

+ "Peruccodes." or C. alba. Larva .10 long, white, with distinct Y-shaped blk.

At a Meeting held at the usual place upon Wednesday June 25. 1856, pursuant to notice duly given by the Secretary, there were present Geo. Winter, Pres.t, Joseph W. Brackett, John G. Bowan, J. J. Beardsley, J. W. Spencer, Alex.r Steel and Benj. D. Walsh, Sec.y

The Secretary stated that at the earnest request of Peter Page Esq.r, Chairman Executive Committee of the Chicago Board, he had attended the Kansas Convention held at Cleveland this June 20th & 21st. as an informal Delegate from this Society; & presented Bill of his expenses on the Road amounting to forty three dollars.

Resolved unanimously, that the Secretary be allowed the amount of said Bill.

Moved by Alex.r Steel that all available funds be appropriated towards equipping & forwarding a number of Kansas Emigrants now lying in Camps near Iowa City; & that such funds be paid over for that purpose into the hands of Hugh D. Downie Esq. Treasurer of the Kansas Settlers' Society of that place. Carried unanimously.

The Secretary offered to advance the whole available amount subscribed in the Books of the Society out of his private funds for the above object. The offer was accepted unanimously.

Moved by Jos. W. Brackett that in case it should be necessary for the Secretary to go personally to Iowa City for the above object, his expenses there & back be borne by the Society. Carried unanimously.

On motion adjourned sine die.

, President.

Benj. D. Walsh, Secretary.

At the adjourned Meeting held June 17th 1856 there were present Geo. Minter, President, Joseph W. Brackett, J. W. Spencer, J. J. Beardsley, Alex.r Steel, John G. Powars, Hiram Pitts per proxy given to Jos. Jackman, & Benj. D. Walsh Secretary.

Moved by Benj. D. Walsh that a corresponding Committee consisting of three persons be appointed, & that the President, George Minter, be a Member of said Committee. Carried unanimously.

Moved by John G. Powars that Ira O. Wilkinson be the Second Member of said Committee. Carried unanimously.

Moved by John G. Powars that Benj. D. Walsh be the third Member of said Committee. Carried unanimously.

So the Corresponding Committee was duly organized.

Moved by Benj. D. Walsh that Joseph W. Brackett be Treasurer of this Society. Carried unanimously.

Moved by John G. Powars that the action of the Moline Subscribers in appropriating all funds raised in that town towards the equipment & maintenance of a certain number of Kansas Settlers sent out to the Territory from that town, be approved & adopted by this Board; & that the Treasurer enter their subscriptions on the Cr. side of his account & their expenditures on the Dr. side, in the same manner as if their funds had actually passed through his hands. Carried unanimously.

Moved that any Member of the Board be authorized to call a Meeting by notifying the Secretary, whose duty it shall then be to notify each Member of the Board of the time & place of such Meeting. Carried unanimously.

The Committee of two appointed June 16. 1856 to draft Rules & Regulations reported progress and asked a further extension of the time. Granted unanimously.

On motion adjourned sine die.

, President

Benj. D Walsh, Secretary.

Kansas Settlers' Society,
Rock Island Branch (consolidated Society.)

At a Meeting held June 16. 1856 there were present John G. Powars, Joseph W. Brackett, J. W. Spencer per prony given to John G. Powars & Benj. D Walsh, the other Members of the Consolidated Board having been duly notified of the time & place of said Meeting.

Messrs Brackett & Walsh holding over as Chairman & Secretary pro tem. under the provisional organization, it was

Moved by Benj. D. Walsh, seconded by John G. Powars, that George Minter be President of the (consolidated) Rock Island Branch of the Kansas Settlers' Society of Chicago. Carried unanimously.

Moved by Jos. W. Brackett, seconded by John G. Powars that Benj. D. Walsh be Secretary of the said Branch Society. Carried unanimously.

Resolved, that Geo. Minter & Benj. D. Walsh be a Committee to draft Rules & Regulations for the government of this Society, and report to this Board at their next Meeting.

Resolved, that the Secretary furnish Subscription Books to each Member of the Board, properly headed, & that each Member of the Board be a Committee to solicit subscriptions.

Adjourned to Tuesday June 17th. to meet at the Office of J. J. Beardsley at 8.30 A.M. the above Office being declared to be the Regular Place of Meeting until further action in the case.

Kansas Settlers' Society,
Rock Island Branch No. 1.

At a Meeting of the provisional Committee of the above Society, appointed in pursuance of the 1st Resolution of a Public Meeting held in the Court-house Square of Rock Island June 12. 1856, and consisting of John G. Powars, Joseph W. Brackett, J. W. Spencer, John Ziegler, Hiram Pitts & Benj. D. Walsh, held on Monday June 16th. there were present John G. Powars, Joseph W. Brackett, J. W. Spencer pr proxy given to John G. Powars and Benj. D. Walsh

Joseph W. Brackett was appointed Chairman pro tem. & Benj. D. Walsh Secretary pro tem.

Resolved unanimously, that this Board do unite as one & the same Committee with a Committee appointed in pursuance of the second Resolution passed at the aforesaid Public Meeting; and consisting of George Minter, J. J. Beardsley & Alexander Steel, each of the three last named gentlemen having signified their assent to such united organization; & that the whole Board constitute the Permanent Committee of the Rock Island Branch of the Kansas Settlers' Society of Chicago, Illinois.

Benj. D. Walsh Secretary.

(Bakhsea & N.E. Nat. Seal)

√ Osten Sacken
√ Edwards
Grote
√ Le Conte
Clemens
Uhler
Norton
√ M. S. Bebb
√ A. Agassiz
Packard
Scudder
(12) Ulke
(13) Worthen
Asa Gray? ~~Bates, Darwin~~, Hagen; Saussure?

H. C. Wood, 144 N. 12th St. Philad.a

Wm. Couper Box 46, Quebec L.C.

Alfred R. Wallace, 9 St. Mark's Terrace, Regents Park, London N.W.

~~P C. V. Riley, Box 1554, Chicago~~

P Wm. Manlius Smith M.D., Manlius Onondaga Co., N.Y.

Dr. Asa Gray
via Bremen
Chas. H. Peck, Albany, N.Y.

Dr. H. Hagen
Vorder Roßgarten 24
Kœnigsberg
Prussia

~~C. V. Riley Box No. 1554 Chicago~~

P Aug. R. Grote Curator of Entom. Soc. Nat. Sc. Buffalo N.Y. Box 3944 N.Y.

H. W. Bates {15, Whitehall Place, S.W., London; ~~40, Bartholomew Road, Kentish Town N.W.~~}

R. McLachlan, 1 Park road Terrace, Forest Hill, London Eng. ~~N.W. London~~

P [illegible] N.Y. St. cabinet Albany

P Chas Sonne. 47 LaSalle St. Chicago

Sam. P. Boardman (Woodgrove) Lincoln, Logan Co.

Prof. [illegible] Louisville, Kentucky (College Building corner of 9th & Chestnut St. private residence No. 802 5th St. Louisville.

~~J. Haggen, Woodburn, Macoupin Co., Ill.~~

A. E. Eaton, 20 Russell St, Reading, England (Ephemeridae)

June 16. 1856.

no finally organized

Chicago Illinois.

of

Kansas Settlers Society

of the

Rock Island Co. Branch

of the Proceedings of the

Journal

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Edwards
Fitch
Le Conte
Uhler
Clemens
Norton
Packard
A. Agassiz

Baird
Packard
Scudder
Agassiz
Uhler
Uhler
B. S. N. H.
Osten Sacken
Edwards
Fitch
Le Conte
Norton

Geo. W. Peck, Box 4998, N. Y.
Prof. John Phin, Havana N. Y.
(Prof. Agric. Pa. agr. College.)

|| Aphides article Scudder. Stimpson & Hall. Scudder, B. S. N. H.

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√ × || Wm. H. Edwards. Newburgh N. Y.

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√ || Dr. John L. LeConte 1325 Spruce St. Phil.

√ || Dr. John G. Morris office of Asst Surgeon General St. Louis. Baltimore

× || P. R. Uhler Peabody Institution, ~~124 Franklin St.~~ Baltimore.

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From FRANCE, *per Franc* . . .	33⅓ cts.	37½—40 cts.	40 "
From GERMANY, *per Thaler*=30 *Ngr.*	$1.10	$1.20	$1.10
" *Florin*=60 *Kr.*	63 cts.	70 cts.	63 cts.

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Rev. Hamlet Clark ~~12 Balstrode St~~ 16 Bronderbury Rd Kilburn N.W. London ~~Manchester Square (W) London~~

Henry H. Ulke 278 Penna Av. Washington

[illegible] p. 57 [illegible]

* [illegible] in 1863, p. 67

* [illegible] (lesson &c) p. 69

Buff-necked [illegible] (S. A.) = [illegible] p. 70

[illegible] = [illegible] = [illegible] p. 70

[illegible] ([illegible]) p. 71. 125 & p. 106 ([illegible]) 149 & 150

Cocoon of white oak p. 72 – & p. 174

[illegible] on [illegible] p. 77

[illegible] in [illegible] p. 90

[illegible] = base of [illegible] p. 97

[illegible] p. 103 [illegible]

[illegible] p. 100

* [illegible] Feb. 16, p. 106

* [illegible] ([illegible]) [illegible] favorable

* July 23 [illegible] p. 107

[illegible] in [illegible]

July 30 [illegible] p. 109

[illegible] ([illegible]) p. 110

[illegible] S. [illegible] p. 115

[illegible] p. 117

[illegible] p. [illegible]

[illegible] (bred) p. 123

[illegible] p. 129, 139

[illegible] p. 132

[illegible] p. 136

[illegible] p. 138

[illegible]

with a round spot each side. third segment band gradually narrowed in the middle, fourth and fifth segments, bands slightly interrupted, venter immaculate.

Length nine-twentieths of an inch.

In the collection of Mr. William W. Wood.

This species would seem to be allied to the Serena, judging by the description that Fabricius gives of that insect, particularly as he describes the costal margin of the wings to be fuscous. That insect, however, is stated to be only a little smaller than the nanea of the same authors size which at once puts that species out of the question.

Say vol. I, p. 380.

Diphia Fabr. Latr.

Lecture on Eastern Fable

To quote from the expressive language of my late friend Benj. D. Walsh, in one of his papers on galls:—

"If this one little gall and the insect that produces it were swept ~~out of~~ out of existence how the whole world of insects would be convulsed to its very centre! How many species would be compelled to resort for food to other sources, thereby grievously disarranging the fine balance of insect life! How many others would probably perish from off the face of the earth, or be greatly reduced in numbers! Yet to the eye of the common observer the gall is nothing but an unmeaning mass of leaves, of the origin and history of which he knows nothing and cares nothing."

2ii)

"The dervise of the Eastern fable claimed to have discovered the language of birds, which to the vulgar their notes were inarticulate sounds without passion and without meaning

The entomologist does not indeed pretend to understand the language of Insects, for, as they all breathe (Mar' p 262) through spiracles or tracheae) none of them thro' their mouths, their mouths are everlastingly dumb. But from signs and tokens well known to him he can interpret their actions, and recognize at a glance what object they are pursuing, whether sport or love, or war, or food for themselves, or food for their future progeny, or the construction of habitations either for themselves or for that future progeny which they are doomed never to behold. Under every stone, under every clod, and even under the most despised substances, there is a little world in miniature opened to his eyes. And there scarcely grows a plant but what contains in its own [legible] hieroglyphs, a whole chapter of Natural History written by the finger of the great Author of our being!"

✓ [Quercus 1 cecid?

11 cecd. O.S. ✓ [Vitis 11 Cocc 11 cecd.

✓ Staphyl 1111 cecd, 1 acard.

8 cecd. ✓ O.S. [Carya 11 Cocci 1111 Cocid.

✓ [Ulmus 1111 acard. 1 acard?

✓ Tilia 1 acard, 11 cecd

1 cecd. O.S. ✓ Acer 11 acard 1 cecd.

✓ [Cornus 1 cecd

1 cec. O.S. ✓ Fraxinus 1 (1?) acard.

✓ Negundo 1 acard

✓ [Rhus 1 Aphid.

✓ Juglans 11 acard.

✓ Prunus 1 acared.

✓ Cerasus 1 acared

✓ [Populus 11 aphid? 1 acard.

✓ Pyrus 1 (2) cecidom? 1 acard?

✓ Corylus 1 cecidom

13 sp.

4 Total cocci. 3 cecidom.

26 cecid. 18 (3 doubtful)

16 acard. 14 (2 doubtful)

11 3 aphid. 3 (2 doubtful)

38

B. D. Walsh

Rock Island

Illinois

1) bud { S. gemma ✓ 16

2) twigs { S. ovum ✓ 17
S. ovulum " 18
S. nodus 19

3) leaves { S. pomum 20
S. desmodioides 21 bis
S. pisum 21

Hove brea (

Thursday (Chan...)	.10
Labor .04	.04
Gall. .oa	.37
Length 1.00	1.23

Willow Cecidomyiæ &c

✓ 15) Cec. cornuta sp. burrowing in brassicoides stem p. 60.

~~"Exuberance of insect life" p. 60 – 61~~

[~~Begin Cecidomyia galls mistaken for Cynips~~ "] ~~they "imagos identical"~~

~~they "cocoon exuded"~~ ~~not "constructed"~~ p. 85 ×

{ rhodoides { gnaphaloides { gemmæ — all same willow

Saperda inornata p. 61. 100. 114

1) ~~strobiloides p. 72. 77. 78 bis. 80 bis. 93. 95. 96 bis. 97 bis. 106. 107. 108. 109. 111. 83 bis. 85. 86 bis. 89. 91. 92 bis. 116. 117. 118~~

Euura [~~vernenalis~~] p. 73. 78 bis. 112. 126. 135. ovum

11) Cecid. fulviventris. p. 73. 81 ×. 86. 87. 88. 91. 92. 93. 95. 96 bis. 97. 110. 113. 117. 118?

~~2. Cecid. brassicoides. p. 73. 77. 78. 81. 83 bis. 85. 86. 87. 88. 95. 97 bis. 98 bis. 100. 106. 110. 41. 115 bis. 129~~

3) cecid. rhodoides p. 74. 75 bis. 78. 83 ~~ter~~. 85. 86 bis. 87. 88 ter. 89. 90. 91. 106. 110.

7 cecid. batatas. p. 75. 78. 81 ×. 81 bis. 83. 85. 86 bis. 88. 89. 91. 92. 95. 96. 98. 99 bis. 100 bis. 107. 109.

6 cecid. siliqua p. 75. 76. 83. 89. 92. 113

4 cecid. gnaphaloides. p. 76. 77. 90 bis. 95. 98. 99. 109. 122

5) [Cecid.] gemmæ. p. 87. 94 ([illegible]?) — Inquiline 18 17 p. 98

12) cecid. orbitalis p. 90 [~~left off this page~~] p. 97. 98. 100. 101

13) Cec. 3-fasciata p. 127

9) S. ænigma p. 105. 106. p. 114 ×. 116. 117 bis. 122. 126

14) Cec. subflavescens. p. 127. p. 134

S. desmodioides. p. 112

8) S. verruca p. 122.

10) S. semen p. 124. 126

~~bush S. longifolia + S. cordata (each its gall) 110 ×~~

Euura? ovulum n. sp. (S. humilis.)

Inquilinous cecid. see O. S. pp. 180. 184 and 186

~~Ovipositor of cecid. variable p. 134~~

Anthocoris pseudochinche p. 114

Haltica alternata. p. 114

~~salicis pomum [sal. ramuli nodosa] p. 125 (Tenthred.) bis~~ . 118 bis. 125

Salix rostrata con[illegible] ...

Saperda inornata p. [illegible] ... [illegible]oded cecid.

~~S. batatas~~? or S. cord[illegible] ... [illegible]lanimous

oviduct variable p. [illegible] ... [illegible] Westw. I

Synoptical Table p. 84

Thing [illegible] (Sch[illegible]) .10
[illegible] .04 .04
Gall .32 [illegible] .37
length 1.00 1.25

Willow Cecidomyia &c

{rhodoides
{gnaphaloides
{gemmae
all same willow

✓ 15) Cec. cornuta.
sp. burrowing in brassicoides stem p. 60.

~~"Exuberance of insect life" p. 60 - 61~~

[~~Begin "Cecidomyia galls mistaken for Cynips"~~]
~~they~~ "imagos identical"

~~Saperda~~ inornata p. 61. 100. 114

~~then "cocoon exuded"~~
~~not "connectate"~~
p. 85 ×

1) ~~strobiloides p. 72. 77. 78 bis. 80 bis.~~ 93. 95. 96 bis. 97 bis. 106. 107. 108. 109. 111. 112. 122. 135.
Euura [~~vimenalis~~] ovum p. 73. 78 bis. ~~102~~ bis. 85. 86 bis. 89. 91. 92 bis. 117 ~~110~~ bis

11) Cecid. pulvoventris. p. 73. 81×. 86. 87. 88. 91. 92. 93. 95. 96 bis. 97. 110. 113. 117. 118?

~~2 Cecid. brassicoides. p. 73. 77. 78. 81. 83 bis. 85. 86. 87. 88. 95. 97 bis. 98 bis. 100. 106. 110. 11. 115 bis. 129.~~

3) cecid rhodoides p. 74. 75 bis. 78. 83 ~~ter~~. 85. 86 bis. 87. 88 ~~ter~~. 89. 90. 91. 106. 110.

7 cecid. batatas. p. 75. 78. 81×. 81 bis. 83. 85. 86 bis. 88. 89. 91. 92. 95. 96. 98. 99 bis. 100 bis. 107. 109.

6 cecid. siliqua p. 75. 76. 83. 89. 92. 113

4 cecid. gnaphaloides. p. 76. 77. 90 bis. 95. 98. 99. 109. 122.

5) [Cecid.] euura? gemmae. p. 87. 94

Inquiline 181? p. 98

12) cecid. orbitalis p. 90 [~~left off this page~~] p. 97. 98. 100. 101

13) Cec. 3-fasciata p. 127

14) Cec. subflavescens. p. 127. p. 134

9) S. aenigma p. 105. 106. p. 114×. 116. 117 bis. 122. 126

S. desmodioides. p. 112

8) S. verruca p. 122.

10) S. semen p. 124. 126

~~bush S. longifolia + S. cordata (each its gall) 110×~~
Euura? ovulum, n. sp. (S. humilis.)

Inquilinous cecid. See D. S. pp. 180. 184 ~~and~~ 186

~~Alternat~~ ~~p.~~ ~~cecid~~ ~~variable~~ ~~p. 134~~

Anthocoris pseudochinche p. 114

Haltica alternata. p. 114

~~Salicis~~ sal. nodus [ramuli] pomum p. 125 (Tenthred.) bis p. 102. p. 107. 108. 110. 111. 112. 115. 118 bis. 125. 127. 129. 132

Salix rostrata cones (Bebb ms.)

Saperda inornata p. 100. 61. 114

~~S. batatas~~? on S. cordata ~~p. 97×~~

oviduct variable p. 85 ✓

Synoptical Table p. 84

double-brooded cecid,

~~Larva of~~ Balaninus in Willow galls Works I. p. 342

The Dervish in the Eastern Fable claimed to have discovered the language of birds, while to the vulgar their notes ~~had no~~ were mere inarticulate sounds ~~or~~ without passion & without meaning. The entomologist does not indeed pretend to understand the language of insects, for as they all breathe thro' spiracles ~~or~~ Thus or tracheæ their mouths are everlastingly dumb; but from signs & tokens well known to him he can interpret their actions & recognize at a glance what object they are pursuing, whether sport, or love, or food for themselves, or food for their future progeny or the construction of habitations either for themselves or for that future progeny which they are doomed never to behold. Under every stone, under every clod, & even under the most deserted substance, there is a little world in miniature opened to his eyes. And here scarcely grows a plant but what contains in Nature's own hieroglyphs a whole chapter of Natural History written by the finger of the great Author of our being.

—to breed & gather
—bred
to breed & gather
bred
bred

2) P. interrupta. Black abdomen with yellow spots; thorax with yellow spots and bands. Inhabits Pennsylvania.

Antennae dull black brown first joint polished piceous at tip; mandibles piceous black at tip; thorax with a spot each side before three in a line between the origin of the superior wings yellow; scutel with a yellow transverse line; wings hyaline costal margin fulginous; metathorax at the tip each side with a double longitudinal yellow spot; pleura with a vertical yellow oblong spot beneath the origin of the superior wing; tarsi pale piceous; tibiae anterior pair blackish-piceous posterior pair pale piceous; thighs black; tergum a little in descent; first segment with a band abruptly and widely narrowed above, second segment

Cure for Drunkenness.

To the Editor of The N. Y. Tribune.

SIR: I have copied this "Cure for Drunkenness" from another print, and send it to you with the request that you will publish it in THE TRIBUNE, for the benefit of all victims to this prevalent vice.

New-York, July 22, 1865.

There is a famous prescription in use in England for the cure of drunkenness, by which thousands are said to have been assisted in recovering themselves. The prescription came into notoriety through the efforts of John Vine Hall, commander of the Great Eastern steamship. He had fallen into such habitual drunkenness that his most earnest efforts to reclaim himself proved unavailing. At length he sought the advice of an ancient physician, who gave him a prescription which he followed faithfully for seven months. At the end of that time he had lost all desire for liquor, although he had many times been led captive by a most debasing appetite.

The prescription, which he afterward published, and by which so many other drunkards have been assisted to reform, is as follows:

Sulphate of iron, five (5) grains; magnesia, ten (10) grains; peppermint water, eleven (11) drachms; spirit of nutmeg, one (1) drachm; twice a day.

This preparation acts as a tonic and a stimulant, and so partially supplies the place of the accustomed liquor, and prevents that absolute physical and moral prostration which follows a sudden breaking off from the use of stimulating drinks.

after a few weeks, months, and in some cases years, it is subject to paroxysms of darting or lancinating pain. The pain increases from time to time, and frequently extends to the lower point of the shoulder-blade; sometimes about this stage of the disease, the arm is entirely useless—the nipple frequently becomes retracted, exuding a thin, bloody discharge.

After a time, the tumor adheres to the skin and the parts beneath it, so as to become fixed and immovable; then it ulcerates and forms an open cancer. The movable lump or tumor, the lancinating pain, the retracted nipple, are never failing symptoms of Cancer in the Breast.

Every person laboring under the above symptoms may at once know their real condition.

THE DANGER OF NEGLECTING CANCER.

I was consulted by a lady in June. I found in the right breast, under the skin, a small tumor or lump. not as large as a common pea, perfectly movable—no redness or tenderness.

I advised the treatment. She declined. In September she called again. Then the disease had assumed a constitutional nature—one so much so that it was impossible to relieve her, and death followed in less than three months. At the time she first visited me, it could have been cured in a few days. Every person who has any of the symptoms of cancer should attend to the case at once, and in no case pinch or press the tumor with the hand. Use no stimulating applications. Cold water or ice in a bladder, applied to the part, will retard its growth; and this is the only means that will do so short of my treatment for radical cure.

CANCER of the FACE and NECK IS ESPECIALLY

*[Note] As an example of the very variable nature of the specific characters in Cecidomyia, I may quote the following. Lolw describes C. solidaginis, ♂ ♀ (from the dried specimens) without however stating the number of specimens used by him. On comparing his description (Dipt. N. & M. pp. 194-5) with 2 ♂ 7 ♀ (dried) which I bred myself from the same gall, I find the following discrepancies:— 1st. The abdomen ♀ has "distinct black & red transverse bands" only in 2 ♀♀, in the other 5 it is blackish immaculate. 2nd The ♂ antennæ (1 specimen, the other mutilated) have only 18 flagellar joints, instead of "20 or 21". 3rd The oviduct, instead of being "of very moderate length & but little pointed" varies from ⅛ – ⅔ as long as the rest of the abdomen, & in the latter case is much attenuated at tip. 4th Instead of the legs ♀ being "black without white reflection" they are dull ochrous immaculate, except in two ♀♀ where they are blackish above & at tip. 5th Instead of the legs ♂ being "black with a white reflection on the tibiæ & tarsi", they are so indeed in one ♂, but in the other 5 they are yellowish immaculate, except the tarsi. — We may observe here, that the structure of the

♂ antennae of this species differs remarkably from that of all Willow Gall-gnats known to me, in the pedicels, which Loew describes as "rather long", (being as long as the spherical part of each joint, instead of only ½ as long; & in the last 3 or 4 joints tapering almost to nothing, agreeably to the remark of Loew that "the uppermost joints are much smaller than the preceding". The verticils, which are said by Loew to be "very long", are scarcely as long as two of the complete joints from which they spring, & differ from those of all Willow-gall-gnats known to me in being much more scanty, there being only 2 or 3 or 4 hairs to a vertical, instead of a considerable number. The joints of the antennae ♀ are globular to the extreme tip, & readily counted, 13-j[illegible] basally moniliform & terminally cylindrical as in all the Willow Gall-gnats.

[illegible] that they can be [illegible] instead of being [illegible]

Legs pale greenish brown, more or less speckled with black, so as to appear blackish, when as they are almost immaculate.

A)

The believers in the Derivative Origin of Species hold that new species have gradually been produced in the course of millions of years by the law of Inheritance, or the well known breeder's principle that like produces Like. As a general rule any remarkable variation in a given species is eliminated by intercrossing with normal individuals, but in particular cases, such for example as those where the variation affords any peculiar advantage to the individual, or where individuals are isolated by any means from the fellows, it is propagated from generation to generation. The elimination by the same great law of Inheritance, In other words, the law of Inheritance as a general rule, keeps species to one invariable standard, but in particular cases it causes them to deviate from it. But, says Agassiz, "this statement itself implies a contradiction, for it assumes that the same influences prevent & produce changes in the Condition of the Animal Kingdom." (Meth. St. p. 281) So that if any one says that the wind sometimes melts ice & sometimes prevents it from melting, "the statement implies a contradiction, for it assumes that the same influences prevent & produce changes." And if another man says that the action of insectivorous insects upon plant-feeding insects tends, as a general rule, to keep them within due limits, but in exceptional cases causes them to become inordinately numerous, this statement also "implies a contradiction", because it assumes that the same causes sometimes produce different effects.

Because it has been satisfactorily, & certainly most beautifully, demonstrated by Agassiz that certain coral-making Radiata have not varied from the normal type in the last 70,000 years, it by no means follows that all other species in the Animal Kingdom have been equally invariable in all time. As well might we argue that because certain butterflies are notoriously constant in their coloration, therefore all other species of butterflies are equally constant. Whereas we know that in certain species it is difficult to find two individuals exactly alike.

Let us illustrate my views on the value of specific characters by an example. The Negro differs from the white man in having woolly & crisped hair, a black skin, projecting lower jaw, thick lips, a flat nose (bossed cheeks) & a projecting heel. But individual white men occur with each of these peculiar characters: they are none of them thereon, perfectly constant characters (pigments under epidermis?) but we know nothing of the perfect facility with which the negro interbreeds with the white man, & the perfect fruitfulness of the offspring of such intercrosses, we might safely conclude that the negro is not a distinct species, but a mere variety of ~~the human~~ Homo sapiens. [Races of Canidae?]

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